

TANK WASTE REMEDIATION SYSTEM
DRAFT ENVIRONMENTAL IMPACT STATEMENT
PUBLIC HEARING



Shadle High School Auditorium
Spokane, Washington

Wednesday, May 15, 1996

6:00 O'Clock, p.m.

TWRS EIS PUBLIC HEARING

SPOKANE, WASHINGTON

MAY 15, 1996

As I was saying, that this a co-prepared document by the U.S. Department of Energy and Washington State Department of Ecology. This document was approved through all levels of both organizations, so that means our senior management bought into it, and from the DOE site it was both John Wagner, who's the manager of the DOE site, as well as Tom Grumbly.

The EIS evaluates alternatives for the tank waste, as well as the cesium and strontium capsules that are located at the Site as well, in that we evaluate a range of alternatives for both the tank waste and cesium and strontium capsules. And we have identified a preferred alternative for the tank waste, which is phased implementation, of which where we would manage and dispose of the tank waste in a phased approach, which means that we would look at doing a pilot-scale facility first, trying to apply lessons learned, and then developing a full-scale facility. The preferred alternative for capsules does not exist at this time because DOE is still in the process of trying to determine how we could use the capsules in a commercial venue. Such as for food irradiation, and we are currently in the process of developing our business and management plan for the capsules. One of the things to note that we are here tonight to get input from the public on this Draft Environmental Impact Statement, because we are scheduled to have a Final Environmental Impact Statement at the end of July, and we want to take your comments and try to improve upon the document we already have.

1 Do you have anything to add Geoff? We're going to have to pass this back and forth.

2 I'll just -- first I'll get used to these lapel mikes. Again, Carolyn introduced me
3 already, but I'm Geoff Tallent with the State of Washington's Department of Ecology, we co-
4 prepared this EIS because we're the agency responsible for issuing the permits for the
5 Department of Energy to carry out their plan for treating this tank waste. I won't add a lot.
6 We're going to have a presentation in a while where we discuss more what's in the EIS. We
7 were just hoping to make this an informal chance for folks to ask any sort of questions, a lot
8 of background, anything you'd like to have. I will say this EIS is, in the State's opinion, an
9 important step towards getting on with the State's plan to clean up the tank wastes. The EIS
10 has a preferred alternative which is consistent with the planning that the State, the
11 Environmental Protection Agency, and the Department of Energy have agreed to, and I'm sure
12 many people have heard quite a bit about that plan in the last several years. I know we were
13 back in Spokane 2 years ago doing extensive, taking extensive comments at that time, so
14 hopefully we're just moving forward with that.

15 I guess the big thing is, that this is a step in continuing the Tank Waste Remediation
16 System, continuing the moving forward of the management and disposal of the tank waste.
17 And that is key for us, this is something that we need to do to go forward.

18 I'm going to hand it over to ...

19 If I could use the overhead. I'm going to shorten what I prepared since I was under the
20 impression that Todd Martin and I were going to fill up 40 minutes. Let me just give a few
21 overheads. Again, my name is Jerry Pollet, and I'm executive director of American Heart of
22 the Northwest, which is a citizens public interest group. And we have some, I think, different

1 views than the State and the U.S. Department of Energy about the tank wastes and the
2 alternatives and this EIS. This is a picture of one of the so called, tank farms, and it shows
3 one where there have been releases of toxic gases, leaks to the ground, and potentially
4 explosive chemicals in the tanks. Here's a picture inside a tank ... this is an old picture inside
5 a tank, and what your seeing here is evidence about how the tanks leak. Tar from outside the
6 tank, these tanks are the size of 4-story apartment buildings that fill an entire city block. And
7 what gets in shows that there are routes for wastes to get out. This is tar splattering in, from
8 outside the tank.

9 I'm just going to try and do this rather quickly, so that people ... it's important that
10 you have a sense of some of the dangers and risks involved with what we're talking about.
11 The tank farms themselves are in very poor shape. Let me get this right, which way they go
12 before ... and this shows some of the ... some of the degradation of the infrastructure, and
13 we're talking about tens of millions of dollars of infrastructure upgrades that haven't yet
14 happened. And every year of delay adds to the risks of leakage and explosion. Here is
15 another shot of a temporary repair on a high-level nuclear waste transform, or exhaust pipe,
16 excuse me.

17 Now tank leaks are a major issue in this EIS. The EIS assumes, for the purposes of
18 presenting the risks from some of the alternatives that would leave high-level nuclear wastes
19 behind in these tanks forever, the EIS assumes that tank leaks will not go down from the tank
20 and reach the groundwater 200 feet below the surface and flow into the Columbia River for a
21 very, very long time. The EIS assumes that for the waste to leak out of a tank, and then hit
22 the groundwater, it will take well over a hundred years. The Department of Energy has been

1 making this claim for quite a while, saying that tank wastes pose no threat to human health or
2 the environment. However, in 1989 the United States General Accounting Office issued a
3 report that said the Department of Energy should no longer be making claims that tank wastes
4 will not reach groundwater rapidly, that the evidence that tank leaks aren't reaching
5 groundwater was a self-fulfilling investigation involving one radionuclide with a half-life of
6 about one year, and which wouldn't be expected to be found in the groundwater if it had
7 reached that of the tank. The conclusion of the General Accounting Office report was DOE
8 does not collect sufficient data to adequately trace the migration of the leaks through the soil.
9 Studies predicting the eventual environmental impact of tank leaks do not provide convincing
10 support for DOE's conclusion that the impact would be low, or nonexistent.

11 And I'll skip over some of the other conclusions, but the bottom line is there is new
12 evidence that this EIS did not consider. And this looks much better in color, and I don't have
13 a color overhead for it, it shows new evidence, gathered in the last year, of cesium from the
14 high-level waste tanks, at the bottom of bore holes 125 feet below the tanks. Cesium is
15 extremely radioactive. And here is a visualization of the plume of cesium underneath some of
16 the tanks in one of the tank farms. What it shows is that the idea that it takes a hundred years
17 for tank wastes to reach groundwater is already proven to be a fallacy. What this means is
18 that when this EIS presents risks of an alternative, that leaves wastes behind forever, it has
19 ignored this evidence, and the risks to human health and the Columbia River are very high.

20 And here is just another visualization ... I got it right the first time ... what you see
21 here is, starting from ground surface here, coming down this cesium, you have a very high
22 spike of cesium at a hundred feet. This is the bottom of the bore hole. We don't know how

1 much further it goes down to the groundwater over here. One may assume that it didn't stop
2 at the bottom of the bore hole.

3 It is important that the people ask why the Department of Energy wants to leave waste
4 behind, and the answer is very simple. The cost. And how the Department of Energy
5 calculates the costs of these alternatives is a very important issue in the EIS. In the EIS, the
6 Department of Energy has ignored the advise of the Hanford Advisory Board and the
7 Department of Energy's own Tank Waste Task Force of citizens, local governments, state of
8 Oregon, Tribes, which said in making plans about what to do about the high-level wastes, you
9 should not think about the hypothetical Yucca Mountain repository. The high-level waste is
10 going to stay at Hanford for a long time, in whatever form we put it in, and we should put it
11 into the most stable form as quickly as possible. And we shouldn't skew these decisions by
12 saying well, how much will it cost for the repository, which the Department of Energy once
13 wanted to build at Hanford, people will remember, and now wants to build at Yucca
14 Mountain, Nevada, two decades behind schedule, billion dollars over cost, and may never
15 open, and the Department of Energy admits that even if it does open, even if we only turn a
16 small portion of Hanford waste into brass logs, this repository won't have room for them. But
17 the Department of Energy, in calculating the costs, and presenting the costs that you'll see
18 tonight, included a hypothetical repository fee, that it would charge itself, for each of the
19 alternatives. And the key alternatives, after you get rid of the idea of leaving waste in the
20 tanks, which is very dangerous and hopefully isn't being taken seriously, first alternative that
21 shows up is leaving 75 percent of the waste in the tanks called the Ex Situ/In Situ
22 Combination. It has a cost range in the EIS of 23 to 28 billion dollars, and comes out by far

1 the cheapest alternative. That's why the Under Secretary of Energy said I want to consider
2 leaving tank wastes behind forever. It's cheaper. Of course it's cheaper, right? It's not a
3 surprise to you.

4
5 The second alternative, in terms of cost order, is to remove all of the waste and
6 extensively separate it, using unproven, untried technologies, vitrify, glassify the highest
7 radioactive material into glass logs, and the rest into a different type of glass. Remove all the
8 chemicals. And it turns out with a 27 to 36 billion dollar cost range. It is also far cheaper
9 than this alternative here, which is the Tri-Party Agreement alternative. You can see a major
10 cost difference of 5 to 15 billion dollars between this unproven and this Tri-Party Agreement
11 path. And an even greater difference with not building a pre-treatment and separations plant.

12 But look at the cost of this alternative. That is just making glass logs. Up to 252.6
13 billion dollars. But then in the fine print you'll see something called the repository fee added
14 on to all these. And when you eliminate that repository fee, you find out that the cost
15 difference turns around rather dramatically. All of a sudden this alternative, of leaving 75
16 percent of the waste behind, isn't actually much cheaper than the other alternatives, and this
17 alternative, which had been number 2 on the prior slide, now drops to number 4 or number 5.
18 The No Separations alternative, after eliminating \$211 billion dollars in hypothetical costs
19 tacked on, all of a sudden has a reasonable price tag. In fact it may have the lowest capital
20 costs, and the least research and development required, therefore it may be the fastest way of
21 getting wastes dealt with.

1 So what you have is the Tri-Party Agreement path now looks a lot closer in costs to
2 even leaving wastes behind, and the difference is this repository fee for the hypothetical charge
3 the Department of Energy would charge itself, for a hypothetical repository which will never
4 have room for any of this anyway.

5 In conclusion, if the hypothetical repository fee is removed from the calculations, the
6 Ex Situ/In Situ, leave 75 percent behind (that's what in situ means), it goes from lowest cost
7 by \$4 to \$8 billion, to only being 1 to 7 billion dollars, lowest cost. The Extensive
8 Separations, remember that is the one that's the unproven technology to separate high from
9 low activity wastes, remove chemicals -- it goes from number 2, to number 4 and number 5.
10 The claimed cost advantage of the Extensive Separations alternative over the Tri-Party
11 Agreement path, goes from a cost advantage to actually being a 5 to 6 billion dollar cost
12 disadvantage. Rather significant. And finally, the No Separations alternative actually ends up
13 in the same price range.

14 The last thing I want you to deduce from the EIS, one of the things that is very unique
15 and good in this EIS is the presentation of -- so you can visualize the incremental cancer risk
16 to people using the Columbia River from these alternatives. This is, if you leave it behind,
17 5,000 years from now, what are the cancer risks to the people using the Columbia River. That
18 dark area, in here, is a cancer risk of between 1 person out of every hundred using the river to
19 1 person every thousand, excuse me, 10,000 using the river, having a fatal cancer.

20 That's the long distance in the future. The next slide is just for the industrial worker.
21 This whole area is probably going to be industrial. Three hundred years from now you see
22 cancer risks from leaving it behind in the 1 percent range. Imagine this -- one out of every

1 hundred people using this stretch of the river, in an industrial worker scenario, not just, say,
2 not exercising the treaty rights to live along the river, for instance, as a Native American, but
3 a worker has a 100 risk of cancer if you leave the waste behind. Now all of a sudden the
4 skewing of the cost for leaving waste behind, combined with these risks, show us why it's so
5 vital to remove all the wastes.

6 This is risks 300 years from now in the No Action alternative for the recreational river
7 user. What's very strange about this is that it shows "no action" being less risky than the
8 industrial worker scenario for theoretically capping these tanks.

9 I'd like to make sure that everyone else gets a chance to ask questions. Heart of
10 American Northwest has prepared a questionnaire, and it's a long, legal-size sheet for people
11 to use. We want to encourage people to offer their comments during the evening. It's very
12 important that you give your comments. But if you can't think of exactly what you want to
13 say, or you want to talk about the Columbia River, or something else, we designed this
14 questionnaire so you can fill it out and leave behind, there are large yellow envelopes at the
15 front, up there, and one over at this desk over here, that you can insert your questionnaires
16 into when you're done this evening. We'd like to encourage you, so that you can offer
17 comments on a range of issues, to fill out the questionnaires.

18 Let me turn that over to Geoff.

19 Thanks Jerry. That was Jerry's perspective on the EIS, and we're going to get up
20 during the formal presentation and go through the Department of Ecology and the Department
21 of Energy's presentation on the EIS. But we've intended for this to be a very formal, informal

1 period for people to ask questions. Jerry's given a lot of information to work from. We'd be
2 happy to talk it through some, I think Jerry'd be happy to stay up and talk things through also.

3 If you have any questions right now, we'd be more than happy to answer them, or you
4 can wait until the question and answer period, or the formal comment period.

5 There's one plant in the United States doing vitrification at the present time, is that
6 correct?

7
8 It closed, 10 days later without ever doing any high-level waste.

9 ... vitrification plant working in the United States, at Savannah River, South Carolina,
10 the Department of Energy site there, and although there's a lot of hoopla about it opening in
11 March, which you apparently saw, it closed 10 days later before it ever dealt with any high-
12 level wastes, and hasn't been able to restart.

13 Second question. Are any of the plants in France working?

14 Yes they are. There's a plant in France and there is also a plant in Solofield, England
15 that does produce high-level waste glass through a vitrification process.

16 How come ??? is closed?

17 I'll be honest I do not know, I do not, Chris do you have any idea why DWPF is
18 currently not operating? ... I had not heard that either, so I can't even say it's fact.

19 ... the Secretary was talking about that that plant was making glass, so I'm not aware
20 of it, Jerry is, I'm not going to deny it, you know dispute it, I just don't know. My
21 information was it's continuing to operate.

1 I'd like to introduce Chris, he is our Deputy Assistant Manager for the Tank Waste
2 Remediation System Program for DOE, and he ...

3 ... if it had restarted, I know, if it closed up 10 days after the Secretary of ... to start, I
4 haven't seen any news since then.

5 I would have to reiterate what Cliff said, we don't really have the facts to ...

6 I talked to somebody at Savannah River a couple weeks ago. It shut down, and it has
7 restarted - is my understanding.

8 Thanks.

9
10 What would be the plan. Would the plan be to build a plant there at Hanford to do that
11 vitrification?

12 Yes. The preferred alternative currently states that we would approach the
13 management and disposal of the tank waste in two phases. The first phase would be a pilot-
14 scale type test, and we, there would be smaller facilities we would apply lessons-learned from
15 our pilot-scale operations, and design and construct full-scale facilities to vitrify the rest of the
16 tank waste, and during the first phase we're estimating we'll vitrify 6 to 13 percent of the
17 waste with the full-scale facility treaty, of vitrifying the rest of the waste.

18 The most important question is when the process would begin for vitrification, and
19 when the majority of vitrification would take place. In the preferred alternative of a phased-in
20 process, or a two-phased process, it would seem that the majority of the waste would not be
21 vitrified until the end of the timeline, and with some of the other alternatives, more would be
22 done earlier. And that's really a key issue.

1 Okay, currently our Tri-Party Agreement, we have just renegotiated milestones for the
2 treatment of the tank waste. And in that DOE and Ecology have agreed to the Phase I facility,
3 or pilot-scale facilities starting operation in December 2002, which is 2 years in advance to
4 what the previous milestones, or Tri-Party Agreement milestones had called for. The start of
5 the Phase II operation, where we would do the majority, the rest of the tank waste is scheduled
6 for around 2010, 2011. To actually start the full-scale facility. And just to let you know, we
7 have an RFP on the street for the privatization effort. We received 2 proposals back on
8 Friday, and DOE is going to be evaluating those proposals, and we're tentatively scheduled to
9 have contract award to at least 2 vendors in the August 96 timeframe. Late summer.

10
11 I wanted to ask if we handle, the State will handle more than our own waste problem,
12 or are we going to be shipping in other wastes from other states.

13 Right now the Hanford Site is only going to deal with wastes from Hanford.

14 For the high-level wastes.

15 For the high-level wastes. And I know that they're referring to the tank wastes. We
16 currently do bring in submarine reactor compartments from the Navy, that are stored in our
17 low-level burial grounds. And I'm really not up on the other programs on the Site on what
18 could potentially be brought in.

19 For what we're talking about tonight, the tank treatment, the intention is only to treat
20 Hanford tank wastes. There are some proposals out there, and the Department of Energy has
21 prepared some environmental impact statements, looking at handling waste nationwide that

1 deals with some another types of waste, and Hanford has come up as an option, a possibility,
2 but that's, there's no decisions that are made yet on that.

3 Do you have guaranteed ...

4 What is currently proposed ... I'll let you repeat it.

5 Do you have guaranteed safe storage for the volume of vitrified product that you will
6 theoretically end up with?

7 We are currently in the process of planning the facilities that will store both the low
8 activity waste and the high-level waste. And those facilities will be designed to meet all NRC
9 or DOE standards.

10 But at this point we don't have them?

11 The facilities are not there as of yet. We will not start producing any type of waste,
12 until, the facility will not become operational until December 2002.

13 Are you saying then that you will not vitrify high-level wastes until you have a safe
14 repository for it?

15 No, no no no, no the high-level wastes will be stored at an interim basis at the Hanford
16 Site until the geological repository becomes available.

17 The reason I'm concerned about this is I'm well aware of how political considerations
18 come into creation of such ... I understand ... and I worry about Hanford becoming a
19 permanent storage ... understand that ... as part of these laws.

20 DOE currently is still planning on the Hanford high-level waste going to a geological
21 repository.

22 How much ...

1 Let me give another answer to that. The EIS ESC have met in the summary and
2 throughout, that all the glass made at Hanford would never go to Yucca Mountain. Yucca
3 Mountain, if it is ever built, and if it opens on time, which theoretically now is sometime after
4 the year 2011, if it opened, it would only have about 10 percent of its total available capacity
5 for the defense nuclear weapons waste. The rest is for the commercial high-level nuclear
6 power plant waste. So it will not store all of Hanford's waste, under any scenario. That
7 means the canister storage building that we're talking about for these glass logs, will be the
8 home to Hanford's high-level nuclear waste till I'm dead. I'm pretty sure of that. And maybe
9 till my grandchildren are dead. And the question then is, for instance, why are they including
10 a hypothetical repository charge to skew the costs of these alternatives. It also raises questions
11 about how big of a facility are they going to build, and will it be housing wastes from all over
12 the country, once they build it, instead of just the glass from Hanford's waste tanks.

13 You mentioned the two stages in the date of 2010. How much of the waste would have
14 been processed under the existing milestones, by 2010, as compared to the 16 percent that
15 your estimating from the pilot project?

16 I'll be honest. I don't remember at this moment. I know we do have that information,
17 and I'll have to get back with you. But it's, I would say it's on the order of anywhere 10 to
18 25 percent.

19 Okay, I'd be interested in that figure, because then kind of the corollary question is
20 what additional measures are you planning to take, or will you have to take to protect the
21 waste that will continue to reside in the tanks, that would have been processed by 2010?

1 Let me try the answer to that please. Jerry excuse me, there we go. The plan has
2 been, and continues to be that we will stabilize these tanks. And what I mean by stabilization
3 would be to pump all of the liquids out so that they can no longer leak. We have, of 149
4 single-shell tanks, there are 115 now that we have completed, and our plan is to complete by
5 1999 or 2000 all of these tanks so that they will have no further liquids in them, and therefore
6 prevent the further leakage into the soil. That's one thing.

7 The second thing is that we have a major construction project that is going on, which
8 we call our Project W310. It represents about 300 million dollars to go out and do a retrofit
9 of some of the things that Jerry showed you some pictures of. Those areas are going to be
10 fixed, replaced, new instrumentation, remote sensing, these type of things, to continue to safe
11 storage of that operation out there.

12 In addition we have been installing safety equipment in each of the tanks. All the
13 flammable gas Watchlist tanks now have their hydrogen leak detectors installed, as well as
14 thermocouple's in the fear of cyanide. So we are improving our instrumentation, and the
15 management of the tank farms now.

16 It's possible to figure it out, just kind of backing out, and from the capacity of the plant
17 that's supposed to be operating in 2002 at 200,200 tons per day capacity. And basically what
18 you get is approximately a third of all the wastes would have been vitrified by that date. And
19 because of the safety concerns, quote, stabilized, unquote, tanks still leak. They also have the
20 potential to explode. Twenty-five more tanks are waiting, being placed on that Watchlist for
21 potential to explode because of hydrogen gas concerns, and hydrogen has been found in other
22 tanks, and so the longer you wait, the more risks there is. And I'll be talking about this later

1 in the evening, in the comments, but this EIS does not consider, just like this on the new
2 evidence of leakage heading towards the groundwater, it doesn't consider the new evidence of
3 hydrogen, and other flammability, and explosion risks, and what that does to probabilities
4 when you leave tank wastes behind for an extended period of time.

5 Our Department of Ecology, here in Spokane, did an experiment a year and a half ago,
6 out at the G.E. Plant on Mission, and they put in electrodes into the ground to vitrify the
7 TCPs. What have you learned from the Department of Ecology? Because this was supposed
8 to be an experiment for Hanford's problem of the ground contamination.

9 As I, in the EIS, I hope I understand exactly what your question is, in the EIS we do
10 look at an alternative of vitrifying the waste in place, using what I would assume is a process
11 similar to yours, putting large electrodes into the ground, and actually turning the ground into
12 glass around the tanks. That is an alternative we looked at. It has clearly some advantages
13 and disadvantages, we learned in the EIS. The greatest advantages are, you capture all of the
14 waste, the tank shell, and the contaminated soils around it in one shot. Some of the
15 disadvantages are, well probably the biggest is, it's not a very mature technology. It's been
16 done on a smaller scale so far, and somewhat successfully. But on the scale of the size of
17 these tanks, which the large ones are near the size of a house, it'd be, given today's
18 technology, very difficult to accomplish.

19 It also doesn't meet state regulatory requirements, and that's shown in the EIS.

20 Excepting for the moment the stabilization and the stoppage of leakage, timeline please.

21 The question was what is the timeline for stabilizing all of the tanks to prevent leakage.

1 Right now we're on a timeline to 2000, and we're trying to accelerate that just as quick
2 as we can. We are looking at now perhaps bringing it back to '98, '99, but right now we're
3 scheduled for 2000.

4 I'm Virgil Donovan. I used to be a engineer, and administered those tanks some 35
5 years ago. At that time we had single-wall tanks. They were expected to last 15 years when
6 we designed them. In 9 years they were leaking. Now we're talking about we're going to dry
7 those tanks up. That was 35 years ago, and some of them leaked in 9 years. That leaves
8 something like 26 years since then. I would think by now mother nature would have dried
9 those tanks up. We've been piddling around with what to do with those for years. I think
10 we're going to piddle around some more. Tritium was the first mineral that reached the
11 rivers, and that was years ago. It has a 12.5 year half-life. I understand there's another 5
12 minerals that follow along behind, all radioactive. I don't know what all those are. Can you
13 say what percentage of those tanks are emptied out now? Are they half gone? How many
14 times you put water in them so it's ...

15
16 I may turn that over to Chris Bader, who's the Department of Energy's head of their tank
17 system.

18 There are 149 single-shell tanks, as your probably are aware. A 114, excuse me, 115
19 have now been pumped of the liquids. Of the 149, there are suspected, or known tanks to
20 have leaked around 67 of those. All the 67 have now been emptied. So we are continuing to
21 pump the remainder as quickly as we can get the equipment in there, and get through the
22 safety process and do it in a safe manner.

1 When Chris says "emptied," that means the liquids, or as many of the liquids that can
2 be easily retrieved have been pulled out there's --- that's correct, I'm talking about the fluids --

3 There is sometimes that water has to be added into because if it was allowed to dry out,
4 it would explode.

5 Jerry's correct on that. There is 1 tank that we call C-106. That is a high-heat tank,
6 and we are continually adding water to that to make certain that it doesn't exceed the proper
7 temperature. We have a program right now, and construction is ongoing today, where we will
8 start emptying that tank in the year 1997, which is next fiscal year. So that tank is planned on
9 to be emptied.

10 Okay, it's about 5 minutes to 7 now, and 7 is when we were going to start our formal
11 presentations. So I hope it's okay with everybody if we stop here for about 5 minutes, give
12 everybody a chance to have a break. We'll come back and do the formal presentation. Then
13 we'll have more questions and answer period. And at that time we'll have Jerry available, and
14 also Todd Martin with HEAL, a local group that follows Hanford. Todd is also a member of
15 the Hanford Advisory Board. And we'll do questions and answers again, and then we'll take
16 formal comments on the record.

17
18 I just want to encourage people as the formal presentation starts this evening, and more
19 questions and answer to -- you might want to follow along on this questionnaire, and it's the
20 large, legal-sized one that is out at the front desk, and there's a large yellow envelope up there
21 to put them back in when your done. And it's a good way of getting comments in. But I

1 encourage you to put your comments, including your questions, on the record during the
2 formal part of the evening hearing.

3 ... trouble seeing this evening, I've got a bright light right in my eyes. But, I'm Vicki
4 Leubq. I'm with the Department of Ecology, and I'm tonight's hearings officer, and I'd like
5 to welcome all of you to tonight's hearing. The Department of Ecology, and the United States
6 Department of Energy, and a representative of HEAL will be presenting short comments in
7 just a few moments.

8 Tonight we're here to discuss the Draft Environmental Impact Statement for the Tank
9 Waste Remediation System proposed at Hanford. And tonight's meeting is going to have four
10 main parts. Part 1 has just concluded, and that was the informal workshop which started at
11 about 6:00. We'll begin with the presentations by the DOE and Ecology staff, who'll explain
12 the project. And after the presentations I'll open the floor for about 30 minutes for questions.
13 At 7:00 p.m. we will begin the formal segment of tonight's meeting, the actual hearing. When
14 we'll record comments for the record, and begin the formal response to your concerns.

15 As tonight's hearings officer, my job is to conduct the hearing. And it has two main
16 parts. I need to make sure that everyone who would like to make a comment to the record has
17 an opportunity to do that this evening. And I need to make sure that the Department obtains a
18 clear record of the proceedings tonight so that they can hear what happened. To do that job I
19 need your cooperation. And I have a few ground rules to go over that support common
20 courtesy, and will help us keep order.

21 The first ground rule is about speaking in order. And I have in my hand here, a list of
22 people who have requested some time to speak to the record, and I'll call their names in the

1 order in which they signed up. If you wish to speak to the record, and haven't signed up,
2 there's a sign-up sheet at the podium outside, at the desk outside, and we'll start on that list
3 second. When everyone who has signed up has had an opportunity to speak to the record,
4 we'll open the floor for anyone else who has decided in the period to speak. Speakers will
5 come to one of the two microphones, where we can all hear them, and where they get
6 recorded, and state their name and address for the record. One person will speak at a time,
7 and that person has the floor.

8 The second ground rule will be about the length of comments. And I want to make
9 sure that all of you who wish to speak have an opportunity. We know you took the time and
10 trouble to come tonight, and probably want to leave at a reasonable hour. I'd like to limit
11 everyone's comments to 5 to 10 minutes. Does that sound fair to folks? Okay, I see a few
12 nodding heads.

13 If there are lengthier comments, or repetitive runs, please try to summarize them, or
14 you'll have the opportunity to comment in writing. All comments receive the same
15 consideration.

16 About questions this evening, we're going to have short presentations, and after the
17 presentation there will be a question and answer period. Once the formal hearing starts, it's
18 your turn. You can ask questions for the record, but at that point the presenters will not
19 respond. So you are asking questions to the record. After the hearing is adjourned, your
20 certainly welcome to stick around and ask as many questions as you wish, or talk with the
21 presenters.

1 After the written comment period, which we'll talk about a little bit more later, is over,
2 the staff will prepare a responsiveness summary, which identifies all the questions and
3 concerns, and response to the comments. You'll each get a copy of the written responses if
4 you sign up on the Responsiveness Sheet, which is also out at the front desk.

5 My fourth and final ground rule is noise from the audience. And extra noise this
6 evening isn't going to be appropriate. We need to get a clear recording of the proceedings.
7 So to review quickly tonight's agenda, we're going to have brief presentations. Carolyn Haass
8 is here from the Department of Ecology. I'm sorry, Carolyn is from U.S. Department of
9 Energy, and Geoff Tallent is from Department of Ecology. And I'm looking at Chris, who is
10 not on my agenda, I'm sorry. And I believe Todd Martin is going to offer a few comments
11 this evening. After that presentations, we'll take about 30 minutes for questions and answers,
12 and then I'll review the formal hearing process, and begin calling folks to speak to the record.
13 I'd like to introduce our presenters for this evening.

14 I hope everyone can see up here, with all the lights. Because I see some people out
15 there with paper. If you have problems seeing the screen, please feel free to interrupt me, and
16 maybe we can rearrange some of the lights so everyone can see the presentation.

17 But I would like to welcome everyone here tonight. The reason we're here is for the
18 U.S. Department of Energy, and the Washington State Department of Ecology. We're here
19 tonight to discuss the Draft Environmental Impact Statement for the Tank Waste Remediation
20 System Program, at the Hanford Site.

21 I'd like to tell you that this EIS was co-prepared by both the Department of Energy and
22 the Washington State Department of Ecology to meet both the National Environmental Policy

1 Act, which is a Federal regulation, and the State Environmental Policy Act, which is the State
2 version of the National Environmental Policy Act.

3 Another thing to tell you is this document was both concurred and approved by both
4 organizations, through all levels of management. The Draft Environmental Impact Statement
5 evaluates a full range of alternatives for the management and disposal of the tank wastes, and
6 the cesium and strontium capsules, which are located at the Hanford Site. And the main
7 reason DOE and Ecology are here tonight is to listen to you, the public, and to receive formal
8 public comment on the Draft EIS. This is important to us because this input from you will
9 help us improve, improve the document prior to us going out with a Final Environmental
10 Impact Statement.

11 Now I would like to start the presentation.

12 One of the things ... the purpose of the proposed action, that we're going to be
13 discussing in the Draft Environmental Impact Statement, is for the tank waste, and the cesium
14 and strontium capsules located at the Hanford Site. The main reason we're doing this is to
15 evaluate how to reduce risks to the workers at the Hanford Site, the public, and the
16 environment. Also, we're evaluating which alternatives in this Environmental Impact
17 Statement comply with both Federal, State, and local laws and regulations. And the third one,
18 the third item here is the EIS evaluates the best way to manage and dispose of both the tank
19 wastes, and the cesium and strontium capsules.

20 The scope of the TWRS EIS is the management and disposal of radioactive, hazardous,
21 and mixed waste that are contained within the TWRS program. And there's three main areas
22 of waste that we'll talk about.

1 One of them is the waste that is currently stored, or to be stored in the future, in the
2 177 underground storage tanks. Let me remind you that currently there are 149 single-shelled
3 tanks located at the Hanford Site, with 28 double-shell tanks. Single-shell tanks means that
4 there is one shell around the waste. Double-shell tanks means you have a double containment.
5 You have two shells.

6 The second item is, we also have wastes that are currently, we have wastes that are
7 currently in 60 smaller inactive and active miscellaneous underground storage tanks. These
8 tanks are much smaller than the 177 tanks I referred to earlier. The larger tanks vary
9 anywhere from a hundred thousand gallons, up to 1.1 million gallons. These miscellaneous
10 underground storage tanks range from 5,000 to 50,000 gallons. Just to let you know, the
11 waste contained within these smaller tanks is about 250,000 gallons, as the waste contained in
12 the larger tanks, the 177, is 56 million gallons.

13 The last item in the scope of the EIS are the cesium and strontium capsules, which are
14 currently being stored at the Waste Encapsulation and Storage Facility.

15 To get a little more specific, what actions are within the scope of the EIS are the
16 continued tank farm operations for safe management of the tank wastes. It also includes any
17 of the tank farm upgrades that will be required to maintain the tank farms in a safe manner,
18 and also upgrades that would be required to retrieve, treat, and dispose of the tank wastes.
19 And the upgrades include instrumentation, electrical, ventilation systems, and also waste
20 transfer systems between the tanks. Also it includes both the remediation and disposal of the
21 tank wastes. And as I said previously, it includes the remediation of the miscellaneous

1 underground storage tanks, as well as the management and disposal of the cesium and
2 strontium capsules, contained at the Waste Encapsulation and Storage Facility.

3 There are several actions that are outside the scope of this EIS. And they can be put
4 into two categories. One that we have already completed the National Environment Policy Act
5 documentation. And that means that we are currently going forward with activities, 'cause
6 we've completed this activity. And they include waste characterization. Waste
7 characterization is an ongoing activity at the Hanford Site within the tanks.

8 The other one is the construction of the cross site transfer system. Underneath the
9 documentation, or National Environmental Policy Act, documentation was completed in
10 December of 1995. And we had a decision to go forward and build a new cross-site transfer
11 system to transfer wastes from an area called, we called 200 West Area, to the 200 East Area.
12 And there's about a 6 mile gap between the two areas, and we did not have a compliant, a
13 regulatory compliant line in place, and we had a Tri-Party Agreement milestone between
14 Ecology and DOE to have that line replaced and in operation by February of 1998.

15 The four items on actions outside the scope of the EIS deal with closure of the tank
16 farms and the surrounding soils. And this document does not make any decisions on closure,
17 which would include how you would remediate soils or groundwater that contaminated soil
18 groundwater that came from the tanks during past leaks, or during future leaks. Also it
19 doesn't include the decontamination and decommissioning of facilities that may have to be
20 built for treating and disposing of the waste. Also, as I said before, it doesn't include the
21 actual closure of the tank farms.

1 I think everyone knows why we're here tonight. We're here to hear from the public on
2 this Draft Environmental Impact Statement. And we have a public comment period that
3 started April 12th, and it's going to continue to May 28th. Following the public comment
4 period, both the Department of Energy and the Washington State Department of Ecology will
5 finalize this Environmental Impact Statement, and we're expecting to publish this, to the
6 public, at the end of July of this year. And we're also then expecting a record of decision on
7 which proposed action, or which alternative we would like to use in management disposal of
8 the tank wastes and capsules by the end of August 1996.

9 This graphic up here, what it is, is it's going to describe the alternatives we evaluated
10 in the Draft Environmental Impact Statement. And you can put the alternatives into four
11 different categories, based upon the extent of retrieval. And the first one is Continued
12 Management. This means we would retrieve no waste from the tanks. And the first
13 alternative you see up there is No Action. This alternative had to be evaluated because it's
14 required under the National Environmental Policy Act. That means, all we would do is
15 continue safe management for a 100-year period, administrative control period.

16 The second one is Long-Term Management. This alternative would do exactly what
17 No Action would do, but we would replace the double -- replace the double-shell tanks twice
18 during a hundred year period. And the reason you would replace the double-shell tanks is
19 because that's where all the liquid waste would be stored. So what you would do is prolong
20 when any waste could potentially affect the environment.

21 The second category is Minimal Waste Retrieval. This is where you would take the
22 liquids out of the double-shell tanks, you would concentrate them, you would put them back in

1 the double-shell tanks, and then you could either do two things. You could either 1) treat the
2 waste, in-place; or 2) you could just do no treatment, and fill and cap the tank. And as I said,
3 the first one, in situ, fill and cap means that we would leave the waste in place, fill it, and then
4 we would put a cap over the top. And that's considered no treatment. The second minimal
5 waste retrieval alternative is in situ vitrification. This is where we would go in and we would
6 vitrify the tank wastes, the tank shell, and the surrounding soils. And then you would also fill
7 the tank with gravel, and you would put a cap over it.

8 The third category is Partial Waste Retrieval. This is where you would retrieve part of
9 the wastes out of the tanks, and treat and dispose of it, and then you would leave a portion of
10 the waste in the tanks. How you would determine what tanks, I mean what wastes you would
11 remove would be based upon which wastes pose the highest risk to human health and the
12 environment. Those would be removed, and the waste that posed the lowest risk to human
13 health and the environment would stay in place, and then we would fill those tanks, and cap
14 them.

15 The fourth category is Extensive Waste Retrieval. This is where we would remove
16 99 percent of the waste out of the tank. This is consistent with the Tri-Party Agreement, that
17 has been concurred on by both Ecology, DOE, and the U.S. Environmental Protection
18 Agency. And it is also consistent with the Tank Waste Task Force recommendation in 1993.

19 We have four alternatives associated with this. The first alternative is we would
20 remove 99 percent of the waste, we would do no separations of the waste, so that means we
21 would not separate any waste into a low activity waste fraction and a high-level waste fraction.

1 It would all be considered high-level waste, and would all have to go to the geologic repository.

2 The second one is ex situ intermediate separations. This is where we would complete
3 some amount of separations, which we would mostly remove the cesium and strontium from
4 the waste stream, and you would then have a low activity waste fraction, and a high-level
5 waste fraction. The low activity waste fraction would be disposed of onsite, as the high-level
6 waste fraction would be interim stored onsite, then sent to a geologic repository when it is
7 available.

8 The third one is ex situ intermediate separations. This is where you potentially would
9 remove all radioactive constituents from the tank waste. So you would minimize how much
10 high-level waste you would send to a geologic repository, and you would maximize your low
11 activity waste fraction that would be stored onsite.

12 The fourth alternative here is the phased, is Phased Implementation. Phased
13 Implementation is an alternative where we would complete an alternative similar to
14 intermediate separations, but we would do this in phases. We would have a Phase 1, which
15 would be pilot-scale testing. We would apply lessons learned, and then we would build a full-
16 scale facility after we have understood the technologies better.

17 Now what I'd like to do is I'd like to turn this over to Geoff Tallent of the Washington
18 State Department of Ecology, and he is going to discuss the impacts associated with the tank
19 waste alternatives.

20 The heart of this EIS is the evaluation of impacts from our different alternatives. We,
21 at the Department of Ecology and the Department of Energy, prepared the EIS to understand

1 impacts so that we can understand the impacts of the actions we may be taking, and where
2 possible, find ways to avoid those impacts.

3 For the sake of time, I'm only going to give a brief overview of our analysis. What
4 I'm going to do is attempt to distill 2,000 pages into about 5 minutes for you here. Your
5 information packet has some more information on it, which will elaborate on it. What I'm
6 going to talk from is a sheet that's in there, which has a graph which attempts to present this
7 all in one spot. So you can follow along with me there, or the overheads will focus in on
8 sections of that graph. Because I'm going to go so fast, I'd like to encourage you to ask
9 questions. And when we get to the question and answer period I'd be happy to fill you in on
10 any of the details. You can also call Carolyn or myself. Our names and phone numbers are in
11 the information packet.

12 In conducting our analysis we found two main categories of impacts. First were short-
13 term impacts, which take place during the times the tanks are maintained, and the waste is
14 treated, and some sort of monitoring and maintenance period, which follows after that. This
15 lasts for about a hundred years, depending on the alternative.

16 Second, we found long-term impacts. These occur long after the treatment is done.
17 We did the analysis out for 10,000 years. We found that 10,000 years seemed to capture all
18 the significant impacts that may happen in the future. I'll begin by summarizing the short-
19 term impacts.

20 For health and safety, we looked at a number of areas, including operational and
21 occupational accidents, transportation accidents, exposure to workers and the public during
22 routine operations, and during routine transportation. In these areas we found two important

1 trends. First, that there's very little potential for short-term impacts to the public. The
2 primary impacts are related to health and safety are to workers involved in the day-to-day
3 operation of these plants. The second trend is that the more waste that is retrieved, treated,
4 and shipped, the greater the potential for short-term impact. You see the numbers presented in
5 the table and in the overheads is fatalities. I want to stress that this EIS is not saying that these
6 deaths are okay. We don't consider this is an acceptable cost of doing business, but these
7 risks are real. These types of impacts to workers are largely controllable, and this EIS
8 provides the agencies with an opportunity to understand how these types of impacts may
9 occur, and build into the final design steps to hopefully reduce these.

10 Two more areas of short-term impacts are impacts to shrub step habitat. This habitat
11 has been designated a priority habitat by the State of Washington because of it's uniqueness
12 and the diversity of species which it supports. All alternatives, except the No Action, have
13 some potential to impact that habitat.

14 The final category is peak employment. This shows that the more workers required,
15 the greater the potential impacts to areas such as schools, housing, and traffic.

16 I now move along to the long-term impacts analysis. I want to remind you before I go
17 into that a couple of points which Carolyn made. First, our analysis only shows the potential
18 impacts from the TWRS actions, the actions we're discussing in the EIS tonight. There are
19 other sources at the Hanford Site, which made cause additional impacts. We analyze these in
20 our key-note of impacts analysis of the EIS, but what's carried forward in the summary, and
21 what I'm going to show you here in the overheads is again, just the TWRS impacts. The
22 second point is that all of the long-term impacts, except the No Action and the Long-Term

1 Management alternatives assume a barrier has been placed over the abandoned tanks. As
2 Carolyn stated, this EIS is not making decisions on the final fate of these tanks and the
3 surrounding soils. However, for the long-term impacts analysis, we assume that this barrier
4 has been placed over. It was, we felt this was a necessary assumption to make.

5 With that I'll move into the long-term impacts analysis. Unlike the short-term impacts,
6 long-term impacts are much less controllable, and more difficult to predict. So, to examine
7 long-term impacts, we created several scenarios for exposure to potential populations. These
8 scenarios are residential farmer scenario, an industrial worker scenario, a shoreline
9 recreational user scenario, a down river, down the Columbia River user scenario, a waste site
10 intruder scenario, and some potential long-term impacts.

11 I'm going to move back to the onsite farmer, to elaborate a bit on that, to give you a
12 sense of how we approached each of these scenarios. This scenario consists of a residential
13 farmer who irrigates crops, and drinks and bathes all of this with water, well water, from the
14 contaminated groundwater underneath the Hanford Site. We present the risk in two ways.
15 First the maximum risk an individual can receive. And second, that risk spread out across a
16 hypothetical farming community, which lives above the contaminated groundwater. To put
17 these risk numbers in context, the 3 in 10,000 numbers you see in the ex situ alternatives, are
18 somewhat higher than the Federal Superfund laws cleanup goal of 1 in 10,000. And higher
19 yet the Washington States cleanup goal of 1 in a hundred thousand. And as you move up in
20 alternatives though, the risks get substantially higher.

21 I'll now move on to two more areas of long-term impacts. The next two categories
22 show the relative impact to groundwater, and the potential use restrictions that may be

1 required of that groundwater. From the long-term impact analysis, we learned two important
2 things. First, the groundwater is the greatest overall pathway to future risks. And second,
3 that the ex situ alternatives leave a much lower long-term impact, than the untreated in situ
4 alternatives. However, the remaining ex situ risk, in many cases, is still significant.

5 That concludes my summary of the short and long-term impacts. I want to remind you
6 that these analyses are based on conceptual approaches and scenarios that are designed to
7 bound the potential impacts. The analyses provides, with reasonable confidence, the potential
8 impacts if a particular scenario is followed. Whether that scenario is actually followed is
9 much more uncertain. However, we believe the analyses gives the agencies and the public a
10 sufficient understanding of the potential impacts from these actions, and allows us to
11 discriminate among these different alternatives. But this is a draft document, and that's why
12 we're here tonight. We'd like to hear your comments. If you see an area we've overlooked,
13 or part of an analysis you'd like to see changed, that's what we'd like to hear from you.

14 I'm going to turn this back over to Carolyn now. She's going to finish up with a few
15 more elements of the EIS, and discuss the cesium and strontium capsules, particularly.

16 What this chart talks about is the regulatory compliance of the tank waste alternatives.
17 One of the things to note is that a National Environmental Policy Act requires that an EIS
18 address a full-range of alternatives. Even alternatives that may not meet Federal, State and
19 local laws and regulations. If an alternative was selected that didn't meet certain regulatory
20 requirements, changes in policy, waivers from the requirements from the regulatory agency
21 such as the Washington State Department of Ecology, or changes in the actual laws by
22 Congress would have to occur. But I think the big thing you can see on this chart is that the

1 ex situ alternatives, or where we take the wastes out of the tank, meet the intent of all
2 regulatory requirements. And where we leave the waste in the ground, they do not meet the
3 regulatory requirements.

4 The next thing I want to talk about is the technical uncertainties and the costs
5 associated with the tank waste alternatives. One thing to note is some of the alternatives
6 involve very complex technologies that have not been applied to the conditions present in the
7 Tank Waste Remediation System program. Or they haven't been applied to the tank waste
8 themselves. In addition, there are uncertainties of the contents of the individual tanks, and that
9 is why a Characterization program is currently ongoing to collect additional information to
10 help us with our design of the facilities which would treat and dispose of the waste.

11 This table shows the relative level of technical uncertainty between the alternatives. As
12 you can see, as you move from the no treatment alternatives to the alternatives with a high
13 degree of waste treatment, or the ex situ alternatives, the level of uncertainty increases. The
14 only exception is Phased Implementation, our preferred alternative. And the reason why is we
15 can apply a lessons learned from the Phase 1, or pilot plant activity into building a full-scale
16 facility.

17 Costs. The cost of the alternatives are shown in ranges to account for these
18 uncertainties. The costs are higher for those alternatives that involve the retrieval, treatment,
19 and disposal of the waste, which means the ex situ alternatives have a higher cost associated
20 with them than in situ alternatives. The costs of the ex situ alternatives are all about the same,
21 except for the No Separations alternative, and that is due to the repository costs. The
22 repository costs are shown in parenthesis, and are a major part of the cost for the ex situ

1 alternatives. And as you can see, the Extensive Separations has very minimal repository costs,
2 due to that this is where we have minimized how much high-level waste is generated, and
3 we've maximized the amount of low activity waste that has been generated.

4 Going into the basis for the preferred alternative. The reason the Department of
5 Energy and the Washington State Department of Ecology chose the Phased Implementation as
6 the preferred alternative is we feel that it provides a balance among several key factors which
7 include short-term impacts to human health and the environment, it manages the uncertainties
8 of the tank wastes, and the technologies that would be used to treat the tank wastes, and it also
9 -- also the long-term impacts to human health and the environment.

10 The Phased Implementation meets all regulatory requirements. Also the Phased
11 Implementation is consistent with the Tri-Party Agreement, which DOE and Ecology and the
12 U.S. Environmental Protection Agency have agreed to.

13 Next I'm going to go into the cesium and strontium capsules. I'm going to go through
14 this very briefly. We evaluated four alternatives to deal with the cesium and strontium
15 capsules. One is that we would do nothing to the capsules, and we would leave them where
16 their currently located in the waste encapsulation and storage facility. This alternative is
17 called No Action. And as I referred to in the tank waste alternative, we evaluated No Action
18 because it is required by the National Environmental Policy Act.

19 The second alternative is where we would do onsite disposal of the capsules. This is
20 where we would retrieve them from their current storage facility, we would overpack them,
21 and we would put them in dry wells on the Site.

1 The third and fourth alternative deal with offsite disposal of the capsules. The first one
2 is where you would remove the capsules from the storage facility, you would overpack them,
3 and you would ship them to the geologic repository. And the fourth one is where we would
4 retrieve the capsules, and we would vitrify them with the high-level waste fraction of the tank
5 wastes.

6 Going through, very quickly, of the short and long-term impacts of the capsules, there
7 really are none. And that is due to the fact that we are managing them in a sound manner.
8 The only potential long-term impact has to do with an intruder scenario. If we were to store
9 the capsules for onsite disposal. And this is where someone could potentially drill into a dry
10 well, and would have a radiation exposure by that drilling.

11 Very quickly, there's only one alternative that meets all regulatory requirements, which
12 is vitrify with the tank waste. And that, for the most part, all the alternatives have similar
13 costs, except for the No Action. And right now what I'd like to do is, well we have finished
14 our presentation on the Environmental Impact Statement, and I'd like to introduce Todd
15 Martin of the Hanford Education Action League

16 **Todd Martin:**

17 How am I doing Frank? Okay? Alright, first things first. It's one thing to have a
18 light just shining in the eye of the presenter, but I don't think the audience should have the
19 light of a thousand suns on their face. Is there anyway we can alter the light so that folks
20 don't have ... you can't see anything? Really? Okay. Well if people feel more comfortable
21 spread out in the corners, I won't be offended if the lights are in your face.

1 Anyway, who am I, and what do I do? I work for a local group here called the
2 Hanford Education Action League. We're a nonprofit citizens group that's been around since
3 1984. And what we do is research activities down at Hanford and the ongoing affects of
4 nuclear weapons production there. And where those activities do not keep in the best interest
5 of public, worker health and safety, or the health and safety of the environment, we challenge
6 those issues.

7 Now after all these numbers that Geoff and Carolyn ran you through, particularly
8 Geoff, he did a lot of data in a very short amount of time, he did a commendable job of it, it's
9 really not that difficult an issue. If everybody out there could just focus their eyes behind the
10 screen, and just look right in the middle ... no forget it. That's my poor attempt at levity here
11 tonight. When we do things with the government that are formal hearings, they're formal with
12 a capital F. So I really appreciate everybody sticking with us.

13 One of the things that I think helps is looking at what these tanks really are. What are
14 we talking about here? These are huge tanks. This is a picture of the tanks when they were
15 being constructed. If you were to look at this today it wouldn't look like this. All you'd see
16 is flat ground. To give you an idea of how big they are, let me see, there's a semi trailer flat-
17 bed right there, and there's a pickup truck. So one of those tanks would fit in this auditorium,
18 but just barely. There's 177 of them. This is a very serious problem.

19 The key problem, and I don't think there's anybody at this table, or probably even in
20 this room, who would argue with this. These tanks are filled with about 60 million gallons of
21 some of the most nasty stuff on the face of the earth. We need to remove that from the tanks,

1 isolate it, or stabilize it and isolate it from the environment and from human population.

2 What's at issue here tonight is when and how we do that.

3 My first point I want to make tonight about the Tank Waste Remediation System EIS is
4 that it's a step backwards. We've already done this work. The government has already done
5 this work. Way back in 1991 DOE started upon what they call a rebaselining effort. And it
6 was a huge engineering effort to look at the variety of options that there were, and to dispose
7 of this tank waste. It was one of the best pieces of government work I'd ever seen. I thought
8 it was great. I'm one of the foremost critics of Hanford, and they did really good engineering.
9 Coupled with that was a big public participation effort. They called it the Tank Waste Task
10 Force. I served on it, there's several other folks in the room tonight who served on it. It
11 served as a model for DOE's participation. It's the best they've ever done. So what came out
12 of that was a very strong support within the public, and within the stakeholder community, and
13 within DOE, and within the regulators. Everybody was all together behind a plan to go
14 forward and get the waste out of the tanks.

15 Unfortunately that didn't happen. We decided to do this EIS. Which is essentially the
16 same study over again. DOE has a history of this at Hanford. What they do is they produce
17 paper. Meanwhile the tanks sit out there in the desert and burp, and leak.

18 So, in that public participation process, what did the public ask for? First thing we
19 asked for was that the -- we said that the tank waste EIS was a waste of time and money, it
20 shouldn't be done. Everybody said, hey DOE, you've done great work, get on with it. Start
21 removing the waste and treating it. Unfortunately they did the EIS. We said we understand
22 your legal obligations to do this. The National Environmental Policy Act says you have to do

1 it. What you should do is simply flush out the environmental and the health and safety
2 impacts of the preferred alternative that we had back then. Unfortunately DOE and Ecology
3 have went back and considered every option that you can possibly imagine. Even those that
4 are illegal.

5 Second thing we said was get on with it. Quit studying the thing to death. Get on with
6 it meant, and this is a quote from that tank waste task force report, it meant reducing paper
7 work, analytic, and decision making redundancy. One again I want to stress the point that
8 these decisions have been made in the past. It's time to go forward.

9 How did they respond to that report? It took over 2 years to produce an Environmental
10 Impact Statement that we don't see has much added value. It's basically 2,000 pages. It
11 increases decision making redundancy. We've been here before. It's time to get on with it.

12 The last point, and one of the most important ones, is that the hypothetical national
13 repository at Yucca Mountain Nevada should not be a driver in decision making at Hanford.
14 Unfortunately the EIS is heavily biased by speculated repository costs. What we were saying
15 here was that there's a mountain that this nation hopes to bury all it's high-level wastes in, in
16 Nevada. Unfortunately they are no where near digging the holes where that waste will go.
17 They are no where near finishing that repository. Nobody's really sure how big it will be,
18 nobody's really sure how much money it will cost to dispose waste there, and lastly nobody's
19 sure if it's actually ever going to happen, if it's ever going to be a reality. Those of us in the
20 Northwest said we understand that, and we should accept storing this waste at Hanford for the
21 foreseeable future. It needs to be safely stored here. What does assume mean that Yucca
22 Mountain will be there due to the EIS?

1 Just a couple of examples. For instance, you saw the costs up here for the variety of
2 options. For one of those options in our option alternative costs about 13 billion dollars to put
3 the waste into the repository. Now if you change the assumption a little bit, make the canister
4 smaller, it drives up cost to over 250 billion dollars. That's a very large impact. For the
5 preferred alternative, and the other alternatives where most of the waste is removed from the
6 tanks, we can see about a 4 billion dollar cost of the repository. DOE has changed the
7 assumption about how much waste they will actually get into the glass in their vitrification
8 technology. All of a sudden that drove the number up to over 12 billion dollars. And then we
9 have politicians, we have policy makers who look at these numbers and make decisions that
10 are not in the best interest of Hanford based on budget numbers that are false, and assuming
11 that there's going to be this national repository. Essentially what you see in those budget
12 numbers is the invisible, but very strong hand of Washington, D.C. And that's not good for
13 the Northwest, that's not good for us, and it's not good for Hanford cleanup.

14 I don't want to just unbase the EIS, 'cause there's some good things in it. Number
15 one, the preferred alternative assumes their going to take all the waste out of the tanks, or at
16 least 99 percent of it. The risks you saw, that Geoff flashed up here, are very large. Those
17 risks require that the wastes come out of the tanks. They're several times what the EPA
18 considers safe, protective of public health. The second thing has to do with pretreatment.
19 And this is a fairly technical issue, but one that has been very controversial at Hanford, and
20 that has to do with the way DOE separates high-level waste from low-level waste. There are
21 those who would like to approach this, and use essentially a science fiction technology that
22 would never be a reality, probably 15, 20 years down the line maybe. And just continue to

1 pursue that kind of a technology. Meanwhile the waste stays in the tanks, we don't get
2 anywhere. Fortunately the EIS makes the decision that we're going to try something that we
3 have a pretty good idea of how to do it. And that's a good decision.

4 Still by in large we see this EIS as another study in an ever growing pile of studies that
5 the government is producing. Their producing paper. We want them to produce treated
6 wastes.

7 Unlike the last shameless plug for my organization, again we're the Hanford Education
8 Action League. On the back table you can find our detailed comments on this Environmental
9 Impact Statement, some fact sheets about this EIS, some of our quarterly publication
10 perspective. Here is -- Executive Director Lynn Stembridge is here tonight, as are several
11 members of our Board of Directors, and we would all be happy to answer questions later, or
12 during the question and answer period. I will be giving detailed comments in the oral
13 comment section a little later, but I want to be sure we have time for questions and answers,
14 so I'll wrap it up right there. Thanks.

15 I forgot to mention that if someone did not receive a copy of the Draft Environmental
16 Impact Statement, there's a sign up sheet in the back. And also you can read the EIS on the
17 Hanford Home Page, and I don't know if anyone's interested in the actual Internet address, but
18 if you are please come up to me afterwards and I give it to you. Actually I can give it to you
19 now. It's WWW.Hanford.Gov, and you would look under What's New, or under EIS.
20 Thanks.

21 ... ran a little bit longer than I anticipated so I'd like to extend the question and answer
22 period until about 7:20, which will give us a good 30 minutes for questions and answers. If

1 you have a question I'd appreciate it if you'd raise your hand, and if you're over there you're
2 going to have to wave pretty hard 'cause I can't see in the light. And we'll try and alternate
3 back and forth across the room. And if you'd stand up and get close to an aisle, one of these
4 gentlemen can get a mike to you.

5 We have a question here.

6 I'd like to know what citizen participation activities have been conducted relative to the
7 issuance of this EIS. Is this public hearing tonight and workshop one of the first, what things
8 have been done over the last year and a half while this was being prepared?

9 Okay, about a year and a half ago we went out and did scoping hearings. Actually it
10 was maybe more like 2 years ago now, this EIS has been taking up a lot of time.

11 That's right, February - March timeframe 1994 we did scoping meetings for the Tank
12 Waste Remediation System Environmental Impact Statement.

13 So at that time there was a public comment period, and we went out to five cities,
14 including Spokane, around the region, and asked for public input on what they'd like to see in
15 the EIS, and how we should proceed with it. In addition to that, we had several discussions
16 with the Hanford Advisory Board on the status of the EIS and it's contents, and we've done
17 some trouble consultations.

18 And then we have followed up with public involvement process for the Draft
19 Environmental Impact Statement. And you are the fourth of five cities that we have been at.
20 And the last one will be Seattle on May 22, next Wednesday.

21 Other questions?

1 The concept of privatization of the high-level waste vitrification program, TWRS, has
2 been very controversial. The Hanford Advisory Board has repeatedly urged that the full costs
3 be disclosed. And in the materials provided at the Heart of the American Northwest recently,
4 it shows a total cost of Phase 1 for capital, that is construction bars, of 1.4 billion dollars.
5 The concern has been that the Department of Energy has decided that it has to take all that
6 money out of the Hanford Cleanup budget and set it aside in a reserve in case the bidder, or
7 bidder's sue. Is that going to be the size of the reserve fund? Or what will be the size of the
8 reserve fund for the Tank Waste Vitrification program if you go ahead with privatization?

9 I'm not familiar with this 1.2 or 1.4 billion dollar number that your referring to Jerry,
10 but let me say this. The privatization has been in a competitive state with the exception, or up
11 until last Friday, which we had spoke earlier in the workshop. We did receive two very
12 professional proposals from companies of Lockheed Martin -- headed one team, and British
13 Nuclear Fuel -- the other. The numbers are now going to be evaluated. We have had internal
14 estimates in terms of what this would cost, but now we have real proposals. So we're going to
15 have to take a look at those, relative to our estimates, before we finalize any numbers.

16 Can you give me what your number is? If you're not familiar with the number that
17 Jacobs Engineering, your contractor, gave me of 1.4 ...

18 Excuse me?

19 If your not familiar with the number given to me by Jacobs Engineering for Phase 1
20 capital costs, what is your figure for Phase 1? And will that be the size of the reserve that will
21 be removed out of the Hanford cleanup budget, and not available for any other cleanup work?

1 Well I just said, I'm not familiar with that number. We do have Jacobs here, so maybe
2 they can address it.

3 Jerry, those are two separate issues. And I'd like our project manager from Jacobs to
4 speak to the costs that your referring to. The 1.4 billion dollars.

5 Yea. We've estimated the cost of that alternative, and presented it in the EIS. DOE
6 has done a separate estimate for privatization. Now they could, that is different than the EIS.
7 The EIS does not address privatization, per say. And DOE could not divulge their estimate
8 for privatization while during the bidding process.

9 ... capital costs for Phase 1, right?

10 Yes.

11 And I'm looking at Jacobs Engineering sheet 10-15, faxed to me recently, which I
12 appreciate it, and it shows Phase 1 capital costs 1.425 million, I mean 1,425 million, which is
13 1.425 billion.

14 As is explained in the EIS, those costs for Phase 1 capital facilities were estimated by
15 scaling from other facilities, other large-scale facilities addressed in the other alternatives.

16 Jerry, we did the cost estimates independent of the privatization program, which DOE
17 is conducting right now. So although the alternative is modeled after DOE's concept for how
18 to carry out privatization, the cost estimates weren't based on the privatization program.

19 Final question. If you could respond as to what would the state's view be if the
20 Department of Energy had to remove, over the next several years, 1.4 billion dollars out of
21 Hanford cleanup appropriations, in order to pay for the private contractors termination and
22 liability reserve fund.

1 I think that it's sort of how the way that you play these numbers, Jerry. Bear in mind
2 that we are being budgeted, and making a request to cover this privatization effort. It's not
3 being taken from the cleanup activity. Yes it is set aside in an escrow account, not the
4 physical money, but the obligation. Because we do have the legal obligation, once we make
5 the commitment, that we have to be able to be in a position that we would cover any kind of
6 termination in the event that that would happen. To say that it's being held out from the
7 cleanup activity, it is being requested to be put in, precisely for the reason that we've
8 indicated, and that is to cover the liability of the obligations that we would have as a result of
9 the contracts.

10 And with respect to the state's opinion Jerry, unfortunately I don't really think I can
11 answer that. I think you'd be best to call Toby Michelena, and you can get me - I'll give you
12 his number later.

13 Question down here?

14 This is not the first time that we've heard of plans to build a vitrification plant at
15 Hanford. A few years ago it was the plans of the government to build a plant at Hanford for
16 this process, and it was decided that the plant that they were planning to build was too small to
17 accomplish the goal. And so they went back to the drawing board, and now this is the newest
18 proposal that's been brought forward. What size is the pilot-project plant under this phased
19 implementation, compared to the plant that was proposed originally under the original
20 implementation of vitrification.

21 I'm going to let Marc answer that.

1 The original HWVP plant was a 2 to 3 metric ton a day high-level waste plant only.
2 The two low-activity waste demonstration scale facilities, that would be built during Phase 1,
3 are each 20 metric tons a day for low-activity waste, and there's also the potential for a 1
4 metric ton a day high-level waste plant, during Phase 1.

5 I think one of the key thing here is that privatization does more than the vitrification of
6 high-level waste. It also does the mobilization of the low activity waste, as Colin just referred
7 to. And there would be two 20 metric ton per day plants, with the option of going to high-
8 level waste at the same time.

9
10 Which was one of the negative points of the original plan, was it didn't address that, so
11 that's good. The second question is with regard to this privatization plan, as I understand it
12 from some recent literature I was sent, it is not the intention to put this plant on Hanford's
13 facility itself, but rather at the edge of the facility.

14 No sir, that is not correct.

15 It's not correct?

16 It will actually be located on the 200 Area plateau.

17 Okay, so it will be onsite?

18 Yes it will. It's tentatively scheduled to be near where the grout vaults were being
19 constructed. The Phase 1 facilities. With the Phase 2 facilities being on the inside of the 200
20 East Area.

21 Thank you.

1 Is the high-level waste at Hanford purely a result of the production of weapons-grade
2 plutonium, or is it also a result of legitimate power production and research?

3 No. The high-level waste is from the production, the defense waste production only.
4 There is no other wastes that are currently in those tanks, or is to be put into those tanks in the
5 future.

6 I'd like to just add to that just a little bit. The laboratory waste that done in the
7 research area when they were developing the various techniques for how these should be
8 separated. How the plutonium should be separated. All that laboratory waste was also put to
9 the tanks. So there were over 5 different processes used in the 40 to 50 some years of
10 production at Hanford. In addition there was some miscellaneous waste that come out of the
11 laboratories.

12
13 I'd like to interject here just for a minute before we get to the next question. We've
14 had a couple gentlemen over here offering responses. I think it would be helpful to the
15 audience if they identified themselves and explain what their expertise is. And I neglected to
16 mention that Chris Bader is a technical expert from the Department of Ecology.

17 Chris Bader is the Deputy Assistant Manager for the Tank Waste Remediation System
18 program, for the U.S. Department of Energy.

19 I keep trying to take all of your employees. I am sorry.

20 That's okay.

1 I'm Marc Nelson, the Project Manager for Jacobs Engineering. We prepared the EIS
2 under DOE and Ecology's direction. And this is Colin Henderson, who is manager of
3 Engineering for Jacobs Engineering for preparation of the EIS.

4 Okay, thank you.

5 Okay, my question is two parts, I guess. It seems like this problem has been going on
6 and on and on. And I'm kind of unclear as to whether the plan that is being set out right now
7 is actually in action, or is it still just being talked about and shuffled around through paper?

8 Currently, I think as Chris indicated before, we had a Request for Proposal that went
9 out to private companies for the privatization effort that would start the Phase 1 activities, or
10 the pilot-scale facilities. We received proposals from 2 vendors last Friday, and DOE is now
11 going to be evaluating those proposals. And we're going to award contracts at the end of
12 August of this year.

13 But essentially the plan we're here discussing tonight is essentially the same plan that
14 was discussed 3 years ago extensively across the region. This is a follow-up to those previous
15 discussions. We had to do this EIS to flush out in more detail the plan. But our preferred
16 alternative and the direction we're heading is the same thing that we've all heard before.

17 And it is consistent with the Tri-Party Agreement, which has been agreed to by
18 Ecology, as well as DOE.

19 It does sound like it is still being shuffled around. And if that is the case, has there
20 been any more aggressive stances? Like a onsite protest with a lot of people? It seems like if
21 you can't get any reaction, it's like you kind of need to take a more aggressive stance. I

1 mean, 'cause from what I've heard, it's leaking into the Columbia River. There's a few
2 different that people I've heard that from, and it just seems like it's time to stop shuffling.

3 Okay, one of the things that is occurring is that DOE is currently taking all of the
4 liquid waste out of the single-shell tanks, which have been suspected of leaking or known to
5 leak, at least 65 of them, or 67. And we're taking the liquids out, and we're putting them into
6 the double-shell tanks, which means they are doubly contained, which have not been known to
7 leak, either on the inner, or outer wall. And that's one of the ways that we've been aggressive
8 in our tank waste management, or the management of those tank wastes. We're also doing
9 other things so that we can retrieve and treat those tank wastes. We are also doing other
10 things so we can retrieve and treat those wastes in a timely fashion when the facilities come up
11 and running through our tank farm upgrades of the -- upgrades of the infrastructure
12 themselves.

13 I just have a small question here. It was said that a lot -- your not even sure what's in
14 these tanks. When you're moving this waste from the single-shell tanks to the double-shell
15 tanks, it's also been said that some of these by-product gases are explosive. How are these
16 tanks tested? Is one of these tanks going to explode? I read an article in Scientific American,
17 which may or may not be true, depending on the research, but he said there was only a small
18 chance of these tanks exploding. What real chance is there that there will be an explosion
19 testing one of these tanks?

20 Well let's take the questions here. We have a pretty good idea as to what's in these
21 tanks. The records, although they go for an extensive period of time, were maintained in
22 terms of what the chemicals that did go in. And these records have been examined extensively

1 by the Los Alamos Laboratory, and they have now built what is called our model of the
2 material that -- based upon the records. Now to supplement this, we have to go in and verify
3 what is in these, and to see if these models are correct. And we have an extensive
4 Characterization program, which has been very heavily criticized in the past, but is now
5 starting to make real progress, and we have now finished, or not finished, but we've sampled
6 123 tanks, of the 177. There have been over 275 samples taken from these tanks, and there've
7 been some surprises in terms of what we saw in the model, versus what we're seeing in the
8 analytes that come out of the laboratories.

9 So we have an extensive campaign going on to verify, or to identify what is in the
10 tanks. We need these data for two reasons. First reason is that we want to make certain that
11 our safety program that is in place is the proper safety program. So we, that is the first
12 priority to our workers, and to the public, and to the environment that we understand what's in
13 there. The results of this is that there was a program several years ago to remove the cesium
14 and strontium out of the tanks to reduce the heat load that was in it. The radiation heat. And
15 ferrocyanide was used as the component to extract these materials. It's explosive. It has now
16 been proven, not only analytically, but also by virtue of taking samples from the tanks that the
17 ferrocyanide has now deteriorated, and is not a factor anymore. So we are starting to eliminate
18 the safety problems. One of the hazards that we have is flammability due to radioanalysis, so
19 you do get hydrogen generated, and so we have to deal with that. And we do deal with that
20 through ventilation systems. We deal with that as a result of putting mixer pumps in to make
21 certain that the material is agitated, and that we do not have sudden kind of an episodic release
22 that would build up a significant amount of material, and the head space to allow an explosion.

1 So there are many many safety factors that are in place, and I'm confident that all the tanks are
2 safe.

3 Other questions.

4 I believe I understood you to say that the Phase 1 would treat primarily low-level
5 wastes, and secondarily a small amount of high-level wastes. Do I derive from that that your
6 going to separate the wastes, that this pre-determined, instead of just going ahead and just
7 treating them in mass?

8 Yes. One of the reasons we want to separate this waste out is so that all of the waste is
9 not considered high-level waste, and would have to be sent to a geologic repository. And the
10 first set of waste that we're going to treat is anywhere from 6 to 13 percent, primarily will
11 have a low-activity fraction, with a small amount of high-level waste. And that's why we're
12 building two low-activity waste facilities of 20 metric tons a day, and the vendors are going to
13 be proposing whether they'd like to build a high-level waste facility, which would be one
14 metric ton per day. But in the Phase 2 you would have a full-scale high-level waste
15 vitrification process.

16 I'd like to add to that just a little bit that it is possible, and when we solicited the bids,
17 we did solicit the high-level fraction as well, so it's possible that we could end up with, when
18 we review these proposals, the issue that we have is that when we do the separation, and
19 Carolyn has explained why we want to do the separation, 'cause we want to reduce the
20 quantity of the high-level logs. So in the event that we have a repository, we won't have this
21 big heavy, or large quantity that has to be permanently stored there. But one of the reasons

1 we may not is that while we're in the pilot phase we don't generate that much to make it real
2 economical. But we're going to see when we see these proposals.

3 Back here?

4 I have two quick questions. The first one is should the unthinkable happen, and one of
5 these tanks blow up due to the hydrogen or the methane that's generated by the tanks, would
6 that explosion be contained within the tanks, number one. If not would those products,
7 radioactive products be released to the atmosphere. And what's your worst-case scenario as
8 far as Spokane if one of those tanks go. Are we going to become a no-man's land here, or are
9 we just going to be moderately contaminated should the weather patterns be that way. The
10 other question is, what are you going to do with the high-level radioactive wastes. As I
11 understand right now there is no place, nobody's ready for any high-level wastes. What are
12 you going to do with the high-level wastes once you get it concentrated?

13 I will go to the second question first. The second one, on the high-level waste, what
14 we're going to do with it? There is current plans to keep the high-level waste onsite for
15 interim storage. And that storage will be until, or if, the geologic repository is open. If for
16 some reason the geologic repository doesn't come about, plans for the high-level wastes, we're
17 not quite sure where we would go with that. On the first question, I'm going to let Marc
18 Nelson, who's standing next to you, answer that on the accident scenario that was evaluated in
19 the EIS, due to tank explosion.

20 We did a very worst-case analysis for the No Action alternative, assuming you didn't
21 do anything to the tanks, and just left them there. Then in the long term, at some point in the
22 future you'd have to expect all of the tank dumps to collapse. So we allowed them to collapse

1 all at the same time. And it ended up, as shown in the chart, there would be up to 201
2 fatalities. Those were all people, either on the Hanford Site, or right around the Hanford Site.
3 The contaminants don't migrate in high enough concentrations to have a health risk very far
4 off the Hanford Site.

5 One thing you need to remember is that is the No Action scenario, which we were
6 required to evaluate, but that is not the preferred alternative. I mean that is where we would
7 do nothing to the tanks whatsoever, we'd leave them as is.

8 And that was assuming they all collapsed at the same time due to a seismic event, some
9 hundreds of years into the future if no measures were taken to remediate the waste.

10 My specific question was about an explosion, not a collapse.

11 The explosion of the tank wastes, they are still evaluating. There is not a final analysis
12 on that. We hope to have that integrated into the Final EIS. But that work hasn't been
13 completed.

14 question-- unintelligible.

15 I can't say, but I'm sure it would not affect this far along.

16 I have a quick announcement before we take the next question. There's a red car in the
17 parking lot that has it's lights on. The license plate is 882 DKU. If that's your car, you might
18 want to go turn your lights off.

19 This is a follow-up to that. I want to address that really quickly. That the idea of an
20 explosion at Hanford, I think anybody telling anybody that they have even a clue as to what
21 will happen if one of those tanks were to blow up is misleading a person. I think, in my
22 personal opinion, it's as likely that radiation won't go anywhere from those tanks, as that it

1 will end up very far offsite. Bottom line is that nobody really knows. There is no, such an
2 analysis doesn't exist, and it's a continuing concern.

3 Originally there was a 30-year Tri-Party Agreement, and now there's a 40-year Tri-
4 Party Agreement. And your talking about privatizing the cleanup. What are the timelines for
5 actually getting a plant to vitrify the material in large quantities, and how long is it going to
6 take to do this, and will it satisfy the current 40-year Tri-Party Agreement?

7 One of the things that has occurred, we've renegotiated some of the milestones in the
8 Tri-Party Agreement with Ecology, and that the Phase 1 facilities will come online, and be
9 operational in December 2002. The milestones associated with the Phase 2 of the Tri-Party
10 Agreement, or Phase 2 of for the full-scale facilities have not yet been negotiated with
11 Ecology. However, we're looking at the timeframe of 2010. Still remember, we will
12 complete all low activity waste processing by 2024, and all high-level waste processing by
13 2028. And that was within the current, the 1994 amendment to the Tri-Party Agreement. We
14 are still within that. We actually accelerated the low activity portion by four years, it used to
15 be 2028 for completion, and we bumped it to 2024.

16 In the past the government contracted with a number of private corporations. And now
17 we're going to privatize. The government's going to contract with other private organization.
18 Please tell me what the change has been that makes privatization something different.

19 Let me take a shot at that. The contracting method with the Department of Energy for
20 many many years, going back to the early 40's, has been the selection of a contractor that
21 would operate the entire plant. It was based on a cost basis. It was the method that was used
22 for over 50 years. We are moving now, as a result of the Cold War completion, now no

1 longer producing the weapons, we are moving into a new contracting phase, which is more
2 performance based. Hanford is moving to a new type of contracting method. It's called a
3 management integration, as opposed to an operations type contract. These are new initiatives
4 as a result of trying to reduce the cost of the weapons system complex, and get on with the
5 cleanup process. The privatization differs from that in the sense that the contract will be let to
6 private companies, as you indicated. They will be responsible for producing and building the
7 building, under their own capital and financing. As opposed to where in the past, the
8 government would build those facilities. They then would be accountable to their financiers,
9 the bankers, insurance companies, wherever their getting the money, for the productive use of
10 that capital. So there is the distinction in the contracting method. It is believed that this is
11 yield, and there are several examples throughout the United States, where moving to
12 privatization is done quicker, it's done better, and it's done for a lot less money.

13 I had kind of a reply of the gentleman's handling of the other guys statement over here
14 about worst-case scenario, leakage into the ground, etc. There's been cases before where
15 toxic, or radioactive waste has leaked into the ground and rendered thousands of acres useless
16 through all the underground water supply, contaminating through underground water supply,
17 where people literally can't live anywhere near the land, just because of the underground water
18 connections.

19 You're right. There have been releases from the tanks. There isn't evidence yet that
20 they've necessarily entered the groundwater, but there have been liquid releases from the
21 tanks. What we were referring to was an airborne release that might get resuspended. That's

1 what we were referring to, not trying to say that there hasn't been releases, accidental releases
2 from the tanks in the past.

3 Gonna have to call a halt to the questions here after two more questions.

4 I just would like to ask about, a couple times you've mentioned maximizing the low-
5 level waste, and reducing the high-level waste. And I guess I don't understand that. Isn't it
6 either low-level, or high-level already?

7 No, actually all the waste within the tanks is considered high-level waste. And what
8 we're trying to do is separate the waste with the most radioactivity. And we're calling that
9 high-level waste. And the waste that has a lower amount of radioactivity will be called low-
10 level waste.

11 So your just talking about classifying it.

12 That's correct.

13 One last question, in the back.

14 A quick question about the tanks. You've said that they're are being suspected, or
15 have leaked. What processes, and what's being done about stopping these tanks from leaking?
16 It sounds like you guys have got a pretty good program to take care of the program in the long
17 term. It sounds like you guys are on the ball with the testing of the tanks, figuring out what's
18 going on. What's being done now to stop these tanks from leaking into the ground? Cause I
19 think that seems to be the biggest problem.

20 We have Tri-Party Agreement milestones which will have DOE remove the liquids out
21 of the single-shell tanks, and put them into the double-shell tanks. And we currently have, and
22 we call this interim stabilization of the single-shell tanks. You don't have full stabilization

1 until you remove the tank wastes. But interim stabilization, we have 115 tanks of the 149
2 complete. And that's how we're trying to minimize additional leaks to the environment from
3 the tanks.

4 And that's ongoing, right now.

5 That's correct.

6 But the purpose of this EIS is to try and get that waste out of those tanks, and that's the
7 best way to ultimately stop those leaks.

8 Right. We will have this interim stabilization activity completed by September 1999.

9 We're going to have to break now, and get on with the public hearing. There are
10 people here this evening that would like to offer testimony for the record. And we need to
11 accomplish that. When that testimony to the record is complete, we will reopen, I believe, for
12 our continuing questions. I think that's okay with all our presenters, and those people who
13 have additional questions are welcome to stay until the public comment period is completed.
14 But we do need to give these people an opportunity to make their comments.

15 So now it is, in fact, your turn. And, as I said, I'll be starting with people in the order
16 that they signed up on the lists. And Rob, if there are additional signup lists, could you bring
17 them to me? Thank you.

18 There are a few ground rules, and I'll review them again. We're going to speak one at
19 a time, and I'd like you to come to one of the microphones in either one of the aisles to make
20 your comments, or you're welcome to use the podium. I want to limit your comments to five
21 minutes. We do have several people who would like to speak this evening. If you have

1 comments that run longer than five minutes, we'll go back and pick you up at the end. And
2 no extra noise. Are those okay with folks?

3
4 Okay, we'll start the public testimony now. Let the record show that it's 8:22 p.m. on
5 Wednesday, May 15, 1996. And this hearing is being held in the auditorium of the Shadle
6 Park High School in Spokane, Washington. Legal notices of this hearing were published in
7 the Federal Register on April 12, 1996. In addition, notices of this hearing were mailed to
8 about 1,200 interested people. Some of you may have received that notice. When I call your
9 name, please step to a microphone. State your name and address for the record, and give your
10 comments. We'll begin with Richard Longmeyer.

11 Thank you. I'm Richard Longmeyer. My address is 1515 S. Cook, here in Spokane.
12 I'll try to keep my comments to within the five minutes. First, I'd like to state I appreciate the
13 DOE bringing the sun, and putting it here on the platform for us. We haven't seen it much
14 here in Spokane lately, so it's nice to have it here finally.

15 I've been following the process of the cleanup at Hanford for many, many years now.
16 I have made comments at public meetings before, and I'm well aware of the action that had
17 been going on for many years in trying to accomplish the process. It concerns me some that
18 we've seen many mile posts, or milestones missed in the Tri-Party Agreement. The original
19 Tri-Party Agreement when it was enacted was touted as the way of accomplishing the cleanup,
20 and when we began to see that we weren't going to accomplish some of the mile posts, they
21 just decided well we'll just renegotiated the agreement. And it has somewhat lessened the

1 impact that it was intended to have of putting some time bounding on the process of cleaning
2 up Hanford.

3 In particular, this year we now have the new process of privatization of the vitrification
4 plant. And really what we've done is just push the process of accomplishing the vitrification
5 farther and farther behind, as we've gone on and on. And as the individual from HEAL
6 during his comments stated, we study and we study, and really don't accomplish much in the
7 way of a cleanup.

8 My second comment is with regard to the privatization. I have some concerns with
9 regard to safety issues, as well as issues such as water quality issues. Both groundwater, and
10 the Columbia River. The question is will the private contractors treat groundwater and the
11 Columbia River with the same care that the government has been mandated to treat it, under
12 the Tri-Party Agreement? Will they hold to the same safety guidelines, or perhaps better
13 guidelines, that would be something that I would be interested to know. We've talked a little
14 bit about the new tanks that are being filled with wastes from current tanks that are leaking.
15 That also raises a safety concern in that, as was stated, this sludge that remains behind in the
16 single-shell tanks that did leak, actually becomes more dangerous than when there was water
17 in the tank. Dangerous in terms of the material itself, and danger of actual exposure to the
18 outside from explosions, and so forth. So that is a concern. That's one reason that I urge that
19 we continue to move forward and reach actual processes of accomplishing cleanup. The
20 original Tri-Party Agreement had in it plans to build a vitrification plant. Those plans were
21 scrapped. It was re-looked at. It was decided that's still the current methodology, and

1 technology that's needed. And so we go again back to where we were five years ago, with
2 still no vitrification plant.

3 In the little chart that you put together, which helps formalize the various different
4 options, one thing that was mentioned again by the HEAL representative, and I have nothing
5 to do with HEAL, I do not have any affiliation with them at all, I'm merely a private citizen,
6 but I do agree with all of the comments that he made. One of the things that would need to be
7 re-looked at is if the Yucca Mountain facility is not going to become a reality, how would that
8 affect the prioritization of these different plans. And my guess is that the Yucca Mountain
9 facility, or any national repository for nuclear wastes, will never receive any nuclear wastes
10 from across state lines in my lifetime, and probably not in the lifetime of my children. And so
11 that means that we need to re-look at this, and prioritize them again. Doing so would
12 probably leave us with three options. The in situ vitrification, the ex situ vitrification with
13 onsite storage, and the phased implementation, which you have now with onsite storage. And
14 so, those would be the three that I would recommend we look at more closely.

15 Finally, just a comment that we in the private sector often times deal with crisis
16 management. At Hanford we hope we never come to that. But if we don't start cleaning it up
17 soon, and get some actual progress made in cleaning it up, and not just studying the issue, we
18 will get to a point where we are dealing with crisis management at Hanford. And we hope
19 that doesn't happen.

20 Just a final comment. The advertisement for this meeting was a little bit more than it
21 had been in the past. I've attended other meetings, and I get information from Hanford all the
22 time, but I'm glad to see that we have a little better representation here in Spokane this time.

1 Unfortunately it was HEAL that did that advertising. I really feel it's the responsibility of the
2 DOE to do that, instead of HEAL. Now whether the DOE needs to hire an advertising agency
3 to help them to put a better face on the meeting, or whatever, I don't know. But I do
4 appreciate HEAL's effort in that regard, but I do feel it's the DOE's responsibility. Thank
5 you.

6 Virgil Donovan, and after Virgil Donovan, John Roecker. I hope I've pronounced
7 these close.

8
9 I'd just like to make some remarks. I have 9 years with the Atomic Energy
10 Commission, which is predecessor to DOE. I served at Hanford as an Administrative
11 Engineer. I moved to the Headquarters office in Albuquerque for a year. I was at Rocky
12 Flats in Colorado. So I've been in three such places as Hanford. I can qualify each one of
13 them as to which is the dirtiest, but I won't talk about that. We had to close the plant in
14 Rocky Flats after some FBI investigation. Politics gets into all of this, and I'm really
15 concerned about that tonight. I ran against Henry Jackson for two years after I came to this
16 state, prior to 1980. I could not, when I went to Albuquerque I couldn't believe what we were
17 doing. We had 33,000 warheads in our stockpile. McNamare said at that time that he wanted
18 to cut it back to 2,400. That was based on the fact that you couldn't sell off over 400 of them.
19 That still exist in the aftermath, he wanted double that, and then come up with 800, and each
20 one of our 3 branches of the military would have 800. That would give him the 2,400. He
21 suddenly found himself in the world bank as a director that didn't need him in the Secretary of
22 Defense anymore. I sympathized with that, and I quit in Albuquerque. I couldn't find a

1 military man that was in favor of this thing that believed we need over 10 percent of what we
2 have in stockpile. That means instead of 33,000, we could have got by with 3,300.

3 This is kind of the way the government works, and Hanford is not above this. There
4 are contractors down there that even that you see at that time would get in bed with them a
5 little bit, and like to see those contracts continue and get bigger for the community, and one
6 thing or another. We see the same thing happening now with Doc Hastings. He wants to
7 convert the Fast Flux Test Reactor to a tritium production plant. Then he wants to follow that
8 up with a bigger tritium production plant. Tritium was used in the bomb because it was
9 cheaper than diterium, which was a much safer material we used to use in the bomb in the
10 warhead. It didn't bother them a bit to make that change. In fact it was a good place to hide
11 the fact that we produced tritium in any reactor, and so we have a certain amount of it we have
12 to dispose of. Well that gave us a good reason to have a bigger stockpile. We had lots of
13 military contractors out there who'd like that, and I'd hate to see it happen again. I don't want
14 us to produce tritium.

15 I want to read you a little article I just put out. I've read the remarks of representative
16 Doc Hastings about how the Fast Flux Test Reactor must be rebuilt so that we can not run out
17 of tritium. He states that it will have to be followed up with a larger, long-term plan to keep
18 up our tritium supply. I say for what? Has Doc really studied this? Or is he pork barrelling
19 at our expense to subsidize his large corporate friends in the nuclear business? We've been
20 able to produce a plutonium uranium fusion bomb since the 1950's that exceeds 100 kilotons
21 in output, and weighs less than a hundred pounds. It can be carried in the suitcase or carrying
22 apron, and fancy guidance and propulsion systems are not needed. Once again, under Mr.

1 Hastings, our land, our government, will swear they need tritium so they can make larger
2 cancer bombs.

3 I understand our average strategic weapon averages about 160 kilotons in output. And
4 mammoth bombs, like some we produce up to 30 megatons or 50 megatons, are not acceptable
5 for many reasons. One of the reasons is that humanity could not healthfully exist in the
6 radiation contaminated world that is left. Why then do we need tritium? Tritium has a half-
7 life, and some 12½ years. By the way, tritium is the first material that migrated to the river.
8 And I don't think you'd have any problem finding that out. If we maintain a fusion capable
9 stockpile, on the otherhand we have tons of materials and plutonium and uranium on hand.
10 Plutonium-231 has a half-life of 25,000 years. Material that requires no further production,
11 and is adequate, in adequate supply for thousands of years with some processing, should we
12 continue to spend more to develop acceptable ways to bear this dangerous material while we
13 produce tritium to replace it? And a half a dozen leave the 33,000 warheads we once had.
14 We don't need tritium warheads, and we never have. Our plans and submarines could deliver
15 properly, design fusion weapons in adequate sizes.

16 Mr. Donovan, I'm going to have to interrupt you.

17 Okay, I'm just pointing out what politics can do to this situation, and I'd like to see
18 your money spent in expediting this thing, and not go off down other trails. And I think we're
19 doing that too, with the privatization.

20 Mr. Donovan, before you leave the microphone, would you state your name and
21 address for the record?

22 I'm Virgil Donovan, and I live in Ephrata, Washington.

1 Thank you. And if you'd like to continue your comments, when the rest of the people
2 have had an opportunity to speak, please do. John Roecker?

3 John Roecker, I live at 17123 N. Brookside Lane, Colvert, Washington 99005.

4 Some of you may know who I am, may recognize me. But a few years ago I was
5 sitting on the other side of the table, and I never thought I'd reach the time, or be here tonight
6 when I'd sit here and say that I'd agree with Todd Martin. Because a few years ago I'd be
7 debating with him. But I do agree with most of his comments. And I'd like to just add, and
8 amplify on a couple others.

9 First of all, the repository cost. The numbers in the way that the repository costs are
10 calculated completely skew the cost estimates in the EIS. They built their Waste Policy Act of
11 1982, very very clearly states how to calculate repository costs. You can't, cannot delete, you
12 must include it ... DOE go back and recalculate those costs in accordance with the techniques
13 and the method that's outlined in the Nuclear Waste Policy Act. And in fact, instead of being
14 a function of volume or number of canisters, the cost would really be, repository cost would
15 be really fixed for if you retrieved 99 percent of the waste it would be a fixed number, if you
16 retrieved 75 percent it would be basically a fixed number. It would not be greatly variable
17 depending on the number of canisters. That's just a completely erroneous way to calculate it.

18 The second point I'd like to bring out is what I call data manipulation. There are
19 examples throughout the EIS where data has been, what I call, manipulated to present a
20 specific case, or to present certain agendas. I can give you some examples, in fact I will give
21 you written comments on the ones that I have found. But as an example, where you talk about
22 the high-end and the low-end of the number of canisters for the two different processes. The

1 low-end you reference a Westinghouse document, and for the high-end you reference a DOE
2 document. Being a little suspicious, and having a little experience with what was going on, I
3 went back to look at those specific documents. The Westinghouse document is an engineering
4 document, which has some pretty good estimates in it. The DOE document is a review of a
5 systems requirements document of DOE that had a high number in it to make some very
6 specific points. To use those numbers in the EIS, I think, is misleading. Because they do not
7 accurately represent the engineering and technical data that is available.

8 That's my fourth point. The technical balance in this EIS is, I think, very poor. I wish
9 I was really interested in the cost of housing in the Tri-Cities in the year 2040, because I could
10 find a lot of data, a lot of computer printout on all kinds of data pertaining to the cost of
11 housing in the Tri-Cities for many, many years. But when I go and look at the technical
12 proposals, the technical alternatives, and try to find out how did you get the number of
13 canisters. How did you arrive at the dollars? How did you arrive at your operating
14 efficiency? I cannot find those very fundamental pieces of information in the EIS, and I think
15 that needs to be changed.

16 I guess I would just like to close by emphasizing what some of the gentlemen have
17 already said about getting on with it. And I'll just give you a little bit more history. The first
18 defense waste management plan was written in 1972. 1972. The second one was written in
19 1983. The third one basically was written in 1988 when the TPA was first signed. The fourth
20 one was written in 1994 when the TPA was renegotiated. We have gone through this study at
21 least four times, the history that I know. We have come up with basically the same conclusion
22 every single time. There has been one change in all those 25 years. And that is we've

1 abandoned grout as the low-activity waste form, and gone to vitrification. Every thing else
2 has changed -- has stayed the same. Nothing has changed. And I guess I just urge DOE, the
3 Federal government, to let's get on with cleanup at Hanford. It's way past due. Thank you.

4 Thank you. Theresa Potts? Theresa Potts? You're going to pass? Okay. Thomas
5 Phipps, and Mr. Phipps will be followed by Bob Stilger.

6 My name is Thomas Phipps. I live at East 801 10th Ave., here in Spokane. All I want
7 to say is, in 1988 we had a Tri-Party Agreement that said we would clean up this waste in 30
8 years. That was 8 years ago. We haven't cleaned up any of the tanks at all at this time. The
9 only change is, as this man pointed out, is we renegotiated it for 40 years. Now we're having
10 discussions about privatization and this Environmental Impact Study, which has taken 2 years,
11 and will take approximately 2½ years before it's done. The privatization, the contracts are
12 going to be awarded some time this year, but no one has said exactly when these plants are
13 going to start cranking out waste, and no one has shown us that there is actually going to be
14 any waste cranked out any time soon. It's projections. I, like all the other people here, feel
15 that we need to get on with it, we need to clean this up, we need to quit studying this to death.
16 It looks like to me that the Environment Impact Study, the privatization plan are just smoke
17 screens to delay doing it so the next administration can come up and pick up the buck that this
18 administration, Miss O'Leary and Mr. Clinton, are passing on to our next generation. No one
19 is doing anything. We need to get on with it.

20 Bog Stilger?

1 I'm Bob Stilger. I'm the Executive Director of Northwest Regional Facilitators of
2 Spokane. A former member of the former Nuclear Waste Advisory Council of the TWRS
3 Task Force, and a liaison from the council to establishing the Hanford Advisory Board.

4 My main comments are about the lack of citizen participation over the past 2½ years.
5 From what, from the answer I got to my question earlier, it sounds like the last major
6 participation that was conducted on this was in late 1970, excuse me 1994, which came at the
7 direction of the Nuclear Waste Advisory Council before it was disbanded. So we've gone
8 through as 2-year period, in which what I regard as substantial changes have been made in the
9 current plans. When I hear that the amount of waste that's due to be cleaned up by 2010 is
10 now at 16 percent, rather than 30 percent. Almost a 50 percent reduction. I regard that as a
11 major change. I regard the plans for privatization as a major change. The fact that these plans
12 have been developed primarily in private, behind closed doors, once again gives me great
13 concern. When I come to a meeting like this and have, what, maybe a 2-hour period to
14 examine what's going on, and have contrary information, or contradictory information
15 presented by on the one hand DOE and Ecology, and on the other hand by HEAL and Heart
16 of American Northwest. I must say, based on past experience, my inclination is to believe
17 HEAL and Heart of American Northwest. Jerry may have long figures, but their frequently
18 more accurate, and more accessible than the others that are presented. My concern is that
19 over the past 2 years work that was done in the late 80's, and early 1990's to begin to develop
20 more of a relationship between the public and DOE, between the public and Department of
21 Ecology, seem to have been substantially eroded. I don't believe that people know what's
22 going on right now. I think these changes need to be discussed more publicly, in a more

1 accessible manner. Frankly, I can't tell from the limited amount of information that's been
2 available tonight, whether the new plans really are the best plans since sliced bread, or are
3 another example of backsliding and more paper work. Whichever the case is, we're not going
4 to know until there is a more active, and more aggressive, and more thoughtful citizen
5 participation process. Thanks.

6 Thank you. Joe Browning?

7 My name is Joe Browning. 4903 N. Stephens. With the problems with the DOE
8 concerning they're only going to tell the public what they want them to hear or see. For all
9 nuclear facilities throughout the United States, and all the nuclear dumps that's, in other words
10 where all the waste goes to, concerning, I'm getting pose it to the DOE specifically here in
11 contrast, or letter. The new energy system. The energy system will replaced nuclear facilities
12 and stop nuclear waste from coming in to all places where they store them. The DOE wanted
13 all technical information to be provided through, and shown to them, to scientific
14 communities, scientific peers. In other words they would probably say to the public, or not
15 say nothing to the public of a new energy system that is not nuclear power, it is not any fuel
16 power energy system. A new introduction to the energy system and the DOE and government
17 and to the public that no more radiation leaks. Radiation problems. Health problems to the
18 public. It's a new concept of energy systems. But it was, from what was appointed to me, that
19 was it would embarrass the DOE, and all nuclear facilities, private and local government. I
20 think that the public should take into consideration of a new energy system, that would bring
21 energy, or nuclear energy to stop radiation leaks into rivers, land, and air would stop. The
22 energy system is not nuclear power of any sort. It will out produce a nuclear facility, and

1 produce a new system of energy sources throughout. The DOE has wanted to only take this
2 into consideration for talks and technical review. In other words, nothing will ever happen.
3 They will tell the public, such as tonight through Hanford cleanup, that we don't need any
4 more Hanford cleanup because we don't need any more nuclear waste coming into Hanford.
5 All nuclear facilities will basically consider, through this new energy system, would be
6 stopped. The public is not made aware of a new system that will out-produce a nuclear
7 facility, and put a halt to nuclear problems.

8 Hanford is also a site of, even though the cold war is over, but if Russia was to attack,
9 which is not likely today, but if a possibility of that 1 percent, Hanford is a target. Nuclear
10 facilities are targets along with military. This energy system that was been created by me has
11 been halted, and not spoke of. Because the public is not being aware of nothing. It would
12 embarrass many of the nuclear private industries, and government nuclear facilities. The DOE
13 will not fund it. Two-million dollars a year has gone into the DOE. They will, as they are
14 tonight, present with talks and for instance 2 years of studies, I mean 20 years of studies, 30
15 years of studies. Problem is, how long are we going to put up with the studies? Let's get on
16 with a new energy system that can be provided for the public without nuclear problems. We
17 don't need to spend 250 billion dollars, 500 billion dollars, into waste cleanup, period. Stop
18 this nuclear problem. Let's get on with a brand new system that does not have any fuel to run
19 it. It's not nuclear powered. It's not solar powered. It has a new technology. A technology
20 that in today's style would be considered old technology with highly advanced technology of
21 today. NASA and the Department of Defense has much of the information that could control
22 and put a halt to nuclear power. We don't need nuclear submarines. We don't need nuclear

1 aircraft carriers. This energy system will out produce anything that has come aboard for many
2 years. Nuclear power has been around for far too many years, and polluted way too much. In
3 the lives of people in the past who have died, even how few they are, how many they are, how
4 many are exposed to radiation. This is a brand new concept that I think the public should be
5 fully aware that we might need to take another step into a new direction of energy. Thank
6 you.

7 Todd Martin.

8 Did she say me? I thought Jerry was before me. I thought I was just going to have to
9 agree with him, and not have to speak. My name is Todd Martin, and I'm testifying on behalf
10 of the Hanford Education Action League at West 1408 Broadway, that's here in Spokane,
11 99201.

12 First and foremost, I want to thank everybody who's come out tonight in this day and
13 age where we're constantly told how apathetic the American public is. We've got a lot of
14 folks here in Spokane who are willing to give up a evening to come here and listen to this.
15 That's great. Thank you all.

16 Secondly, I'd like to thank the agencies for coming to Spokane, and for not having this
17 at a she she hotel downtown, where the spotlight's on the person who's speaking. It's very
18 intimidating. This is a much better forum for these type of meetings. And I'd like to thank
19 both Ecology and DOE for coming here.

20 The Tri-Party Agreement has been spoken about several times tonight, and I want to
21 address that as well. One of the problems we've had, indeed what is left us with the legacy of
22 Hanford is the problem of accountability. How do we make the Federal government

1 accountable? The Tri-Party Agreement is that mechanism. It is up to this point we've had a
2 Tri-Party Agreement that has had a very long list of specific dates DOE must meet, as well
3 has intermediate steps to get to those dates. These are things that we can hold DOE
4 accountable to. The Tri-Party Agreement, as it now exists under the privatization plan, has
5 been reduced to just a few handful of milestones that are generally way out in the future.
6 Those are very easy ones for the Federal government to sign up to, because they don't have to
7 necessarily make the progress to meet those. There is no affective accountability mechanism
8 being built into the Tri-Party Agreement right now.

9 The second thing that I want to address are the costs that are in this EIS. I find them to
10 be incredible. For example, one of the old facilities that some of the folks were talking about
11 here tonight was the Hanford Waste Vitrification Plant. This was the first "vit" plant they
12 were going to build. It was going to cost about 1.3 billion dollars. It was anywhere from 1 to
13 3 metric tons of glass produced a day. Essentially this same facility in this EIS, the EIS says
14 that DOE can build for 232 million. Basically 1/5 the cost. This is based on some very
15 sketchy engineering assumptions. The cost of the 20 metric ton a day low-level waste
16 facilities are along the same line. They no where near approach the billion dollar number. In
17 fact, for Phase 1, DOE says for 1.4 billion dollars, they will build these two low-level waste
18 vitrification facilities, a high-level waste vitrification facility, and two pre-treatment facilities.
19 Essentially for the cost of what last year would take to build just the high-level waste
20 vitrification facility. I say these costs are not defensible, and they need to be fixed before the
21 EIS goes forward.

1 Further, another one that is very easy for anybody to understand is you look at the EIS,
2 and you see in Phase 1 they need to retrieve and vitrify the waste from about 36 tanks. How
3 much would that cost? How much would it cost to pump the nuclear waste out of this
4 auditorium if it were full? According to the EIS, zero dollars. Won't cost a penny. Surely
5 there's a cost there. But the EIS doesn't reflect it. Again, the costs need to be fixed.

6 The last point I want to make is that a clear lesson that we've learned from Hanford
7 and from the nuclear weapons complex is that postponements and delays lead to greatly
8 increased obligations in the future. We've learned that in spades, at least I hope we've learned
9 that. And I'm not sure that the Federal government has learned that. The American people
10 are certain of that. That means we need to get on with it now, otherwise it's going to cost that
11 much more in the future.

12 I've got HEAL's detailed comments, which are available on the back table, and I enter
13 those formally for the record. And lastly, the privatization issue that folks have talked about.
14 HEAL has done a fairly in depth report of that, and that's available to anyone.

15 Again, I want to thank everybody for coming, and I want to thank the agencies for
16 coming.

17 Thank You. Gerald Pollet.

18 I'd like to use the overhead for my presentation.

19 And I apologize, I got you out of order. No actually I put Todd in ahead of you.

20
21 Some of you may have seen some of this during the workshop, but I need to put it on the
22 record now. For the record, I'm Gerald Pollet with Heart of the American Northwest.

1 In 1989 our organization asked then Senator Adams and Congressman Don Bonker to
2 ask the General Accounting Office to do a study of the Department of Energy's claims that
3 leaks from the single-shell high-level waste tanks quote "pose no threat to human health or the
4 environment" unquote, and quote "pose no threat to groundwater" unquote. The Department
5 of Energy continues to make that claim essentially, and bases much of this EIS on that claim
6 today. As you can see, in 1989 the General Accounting Office said in fact tank leaks imperil
7 the Columbia River. That tank leaks are likely to be heading towards groundwater today, if
8 they haven't already reached it, and will flow into the Columbia River. What the department
9 was told, specifically, was that it's studies predicting the eventual environmental impact of
10 tank leaks do not provide convincing support for DOE's conclusion that the impact will be
11 low, or nonexistent. This has been ignored in this EIS. The General Accounting Office also
12 said that although DOE's maintained that the environmental impact of leaks will be extremely
13 low, or nonexistent, the studies we reviewed do not provide convincing evidence that this is
14 the case. New evidence, available to the Department of Energy because it was collected by
15 it's own contractor, available to the people preparing this EIS, and from which is from the
16 Department of Energy presentation, shows underneath the tanks, that are called the SX Tank
17 Farm, cesium-137 is detectable far below the tank, at 125 feet, basically, where it shouldn't be
18 according to this Environmental Impact Statement. Where it isn't, and will not be, according
19 to this Environmental Impact Statement, until we're all dead. But it is there today.

20 And here is another visualization of the cesium plume at depth. And here is a logging
21 of the contamination in a bore hole, down to 125 feet. This is the ground level. this is the
22 bottom of the tank. Here you have a massive spike far below the tank, and another massive

1 spike right here at nearly 125 feet. And you say, now wait a minute, the Department of
2 Energy says it will take 130 years at least for the waste to get from here to groundwater. Yet
3 it is at massive concentrations at the bottom of bore holes, 125 feet below the tanks already.
4 We are wondering if the Department of Energy has additional evidence, and is sitting on that
5 evidence until after the public comment period is over, as to what other tank wastes might be
6 beneath the tanks, and moving to groundwater as we speak. This is the Department of
7 Energy's own presentation. It is a significant contradiction to the current model, that cesium-
8 137, that's the radionuclide which is very very radioactive, does not migrate far from the leak
9 source. It tears apart this Environmental Impact Statement. What would be much more
10 reasonable is if this Environmental Impact Statement was redone on the basis of an assumption
11 that it takes in the vicinity of 25 years for tank leaks to reach groundwater, and from thence to
12 the river is a matter of 10 to 25 years. The clock is ticking. This is a long-term risk scenario
13 where the risks to people in this area here from groundwater contamination are essentially 1
14 person dies out of every 100 exposed. And that is without taking into account the type of
15 assumption that should be made for leaks today. That means, the risks are far greater if we
16 leave any tank waste in-place. Call it in situ capping, it's gravel, folks. It's cemented gravel
17 on top of it. It will reach groundwater.

18 The TWRS EIS skews the costs of the alternatives as well. This, coupled with the
19 risks, presents a very biased picture in the EIS of the alternatives. First off, you see this is
20 how their rank ordered in the EIS, as it will be presented to decision makers, and is being
21 presented to you, the public. Leaving waste behind has a cost range of 23 to 28 billion.
22 Extensive separation comes in close behind it, 27 to 36 billion. This is the Tri-Party

1 Agreement path, called Phased Implementation, 32 to 42 billion, building just one plant
2 basically with multiple melters, and calling it all high-level waste, glassifying it all, this
3 astonishingly high price tag. Anyone rational would through it out. However ...

4 Mr. Pollet, I'm afraid I'm going to have to interrupt you. Your time is pretty much
5 up.

6 Okay, I'll finish this slide, and I'll return after other people have gone. However,
7 when you eliminate the hypothetical repository fee, I do want to reiterate some comments that
8 have been made at this hearing and prior hearings.

9 Mr. Pollet, there are a few more people who would like to speak. Could we get
10 through with them and then we'll come back to you.

11 Your rules did say 10 minutes for organizations, I hate to tell ya.

12 Um, alright. Is that agreeable to folks here, should he continue this?

13 I mean I'll finish this slide. If you'd let me finish this slide I'll let everyone else go,
14 and come back if that's okay.

15 We have only two more people.

16 I'll just finish this slide. The repository fee, once it's removed ... Excuse me, what I
17 was saying was, the Nuclear Waste Policy Act does, indeed say how you should calculate a
18 repository fee if your going to use it here. It is not the way it is calculated here. Secondly, it
19 should not be used at all because this waste will never fit into the proposed hypothetical
20 repository at Yucca Mountain. So what is the fee for? It's a hypothetical fee the Department
21 charges itself for a hypothetical repository that will not have room.

1 So all of a sudden, we have a drastic change in the order of the alternatives. In fact,
2 what we get is, let me just present the conclusion, the Ex Situ/In Situ Combination goes from
3 being least cost by 4 to 8 billion, to only being 1 to 7 billion dollar lower cost then getting all
4 the waste out of there. The Extensive Separations goes from number 2 to number 4 and
5 number 5. It goes from having a cost advantage of 5 to 6 billion dollars over the Tri-Party
6 Agreement, to having a 5.4 to 6.4 billion dollar disadvantage over the Tri-Party Agreement
7 path. It is an effort to skew the data here, and present it in a skew manner to decision makers.
8 And the No Separations alternative, which gets wastes out of tanks fastest, with least research
9 and development, actually shows up has having potentially the lowest range costs. Thank you.

10 And as I said, you're welcome to come back after we've heard from the ...

11 And I appreciate your ... -- ineligible.

12 Kenneth Murphy? Kenneth Murphy? Is Mr. Murphy here? Nathan Engkjer. That
13 one I'm sure I mutilated. I don't see either of them moving about. Kenneth Murphy or
14 Nathan. We've come to the end of the people who have formally requested to offer comment
15 to the record. Is there anyone else who would like to offer comment to the record at this time?
16 Is there anyone who did not sign up who would like to offer comment at this time? If not, Mr.
17 Donovan, would you like to continue?

18 I was trying to make a point that I think is important. If it hadn't been for politics,
19 we'd only produced a tenth of the weapons that we had, weapons material that we had through
20 Hanford, and this problem tonight would only be a tenth of what it is. And we're looking at
21 another political decision to build a tritium plant that you can make a darned good argument
22 that is not needed at all. We can get by with fusion stock pile. And we have an average of

1 160 kilotons in that stock pile, and we can produce that probably in an apron type size, with
2 fusion materials. Uranium and plutonium which we already have. And it has a 25,000 year
3 half-life. Plutonium-239 and uranium-238 is something about like that. Tritium has a lifetime
4 of only 12½ years. And it seems like that we just can't contain it everywhere we go with it it
5 gets all over the plant. And it has a funny way of not being able to be measured. It produces
6 alpha radiation, which can't get back through the skin. So if you breath it in, or eat it, or take
7 it in through a pore, it gets into your body and our radiation reading machines can't pick that
8 up.

9 In Colorado there was a case where a man's daughter died because he lived too close to
10 Rocky Flats Plant. The only way that he could prove that she had died from contamination
11 was to find somebody that would incinerate the body, and then they actually scraped through
12 the ashes and measured that, and proved that she had alpha radiation contamination. And
13 that's what killed her. And it's something that we don't normally do.

14 There's a lot of things that the Atomic Energy Commission did that was not told to
15 folks. Like we had the largest commercial fire in history at Rocky Flats. We made that a
16 secret. We didn't want anybody to know that some of that contamination leaked through the
17 roof. There was speculation that 1,200 people in Denver would die as a result of that fire. I
18 quit the Atomic Energy Commission, and years later I was working for a contractor removing
19 that roof. We had to work in hot suits because that material did leak through the roof. An
20 epidemiologist said there was probably 12,000 people killed in Denver rather than 1,200.

21 The Atomic Energy Commission is not above making anything secret that might be to
22 their detriment and the public. And I can give you hundreds of examples of that. And I think

1 it's time that we made such things as that non-secret so we can make good public decisions.

2 And when Doc Hastings says we need tritium, well we need all the facts before we build
3 tritium. We don't just look at it as more jobs for the Tri-Citians. We're slowing this thing
4 down, don't just look at that as more jobs for the Tri-Citians. We're going to privatization,
5 and giving our buddies out there, our contractors more jobs, maybe that's not the best way to
6 go too. I can give you some examples where we've had private individual handle radiation
7 and it's resulted in a detriment to ourselves. I'm carrying radiation as a result of one of them
8 at Rocky Flats. We had a private contractor contracted on a pipeline that broke, and in the
9 \$90,000 contractor correct that. That material leaked out of the pipeline, and I caught a little
10 bit of it. So I can tell you first hand about that. I have a reading on my own body with it.
11 And I think we should be very damn careful about how the politicians get into this, and how
12 much we believe, and how much we believe of the government agencies. Let's keep them at
13 the point, what we're supposed to be looking for here. Clean this plant up. And let's not get
14 into the side issues of building more tritium, which is not needed, or something else to
15 continue operations at Hanford.

16 Thank you. Mr. Pollet, would you like to continue?

17 Just in terms of format, I think it's desirable for members of the public to speak to one
18 another anyway. So now I can see you, and you can see me, rather than me turning my back
19 to the public and just talking to you folks, so.

20 When we look at these alternatives. Let me go back up, throw on this slide for the
21 alternatives. When we look at the alternatives, we look at, what we're talking about is
22 claiming some fraction of these wastes are high-level, and some fraction are low-level. This

1 EIS is based on assumption that violates Federal law. Federal law considers all wastes that are
2 in the tanks as the by-product of the nuclear weapons separations process, and the reactor
3 created fuel that was basically melted down, turned into the liquid high-level waste. All of it
4 is high-level waste. And one question is whether not we as the public, and the State of
5 Washington, should be willing to say that, oh, after you separate it some portion is going to be
6 claimed to be low activity, and therefore low-level waste and can be buried at Hanford
7 forever, and only a tiny smidgeon needs to be considered legally high-level waste. The law is
8 very clear. It is all high-level waste. Therefore, no matter how you calculate this repository
9 fee, because it is based on essentially the waste content, it really doesn't vary. It doesn't vary
10 legally, because it is based on the waste content. So whether or not you separate it, the
11 repository fee isn't going to vary.

12 We think it is wrong for the department's to put into the EIS an assumption that waste
13 that remains at Hanford forever and is dubbed low-activity waste, is anything but high-level
14 nuclear waste. And in fact the State of Washington has taken that position before. And it
15 would require a new policy issuance from the Department of Ecology to reverse course on
16 that.

17 Now I come to the issue of risks. The, I'm going to turn this off, Environmental
18 Impact Statement makes a number of assumptions about risks that are clearly erroneous, and
19 out of date as well. First, it apparently uses a recreational exposure scenario for calculating
20 risk, which we have criticized repeatedly recently, of the public using the Columbia River just
21 56 hours a year. It is ludicrous. In fact, we believe that a rational scenario for recreational
22 exposure is 1,040 hours a year. The risks shown for recreational exposure, and I want to

1 remind everyone that and for the record remind everyone that risk is a function of time,
2 therefore the risks presented for these scenario's are 18 times too low.

3 Second point as to this exposure scenarios along the Columbia River, folks where is the
4 Native American Treaty Right usage? It is not presented here. That is a usage, guaranteed by
5 the Treaty of 1854, which one can rationally assume will be asserted during this timeframe,
6 and which allows Native American treaty right tribes to live along this area of the Columbia
7 River, and to gather foods and fish in the usual accustomed places while living along the river
8 for extended periods of time.

9 Next, it is wrong to assume that the public in the near term, that is between now and
10 the year 2028, will remain at the Site boundary in calculating risks. Even if you use the Site
11 boundary, the risk calculations are out of date, and fail to consider risks from people using the
12 river, and the new residences that are far closer than the previous north Richland case used.

13 Third, the EIS must clearly show the risk from releases and explosions during the
14 remediation period for each alternative. It's important that you show and use a conservative
15 assumption as to the impact of delay. Throughout the EIS, in determining costs, you use a
16 40 percent cost contingency factor. In other words the costs are inflated just 40 percent as a
17 contingency. Risk is a function of time, and what is amazing is that there is no contingency
18 factor for time throughout this EIS in calculating risks. So we say that a plant will run 4
19 years, because that's the design basis for Phase 1 plant. Well if we have a 40 percent
20 contingency for cost, one would also rationally say we might want to have a 40 percent
21 contingency in terms of delay for that same plant. Therefore we have to re-calculate the risks.

1 Fifth, we know that there are five times as many tanks with the potential for a
2 hydrogen gas explosion as this EIS assumes. This assumption, found in the documents
3 provided which are Westinghouse documents, the assumption is six flammable gas tanks.
4 There are 25 awaiting to be added to the Watchlist. Which is the Wyden Watchlist. They've
5 been awaiting being put on that Watchlist, which is a legal requirement for tanks of the
6 potential to explode, since long before this EIS was issued. The department has known that
7 tanks, additional tanks have the potential for hydrogen buildup above the flammability limit for
8 a year now. It is not shown in the EIS at all. You should be clearly showing the annual risk
9 of delay in terms of tank leaks, pressure vents, and explosions. Clearly show the risks per
10 year of each alternative, and reveal which wastes would be retrieved, and which delayed in
11 each alternative.

12 The ultimate question is which alternative gets on with retrieval of wastes, with what
13 risks on the fastest timeline.

14 ... beyond the design basis accident, i.e., greater than 10 to the -6th one million events.
15 It's also incredible that the same one million chance, or greater, is given to red oil exothermic
16 reactions. Based on the Westinghouse report which say's that the exothermic reaction will
17 only occur by the 135° centigrade. Yet, in 1994, when the Department of Energy agreed not
18 to restart the Plutonium Finishing Plant, it had placed administrative controls on the
19 cowsigners, which are equivalent to the evaporators in many respects, had place administrative
20 controls because it's own studies, including those done at Los Alamos and at Hanford, showed
21 that the exothermic reactions could occur at temperatures far far less than 135°. This data was

1 available, but ignored. It basically means that the risks presented here are entirely
2 underestimated. Especially for tank explosions and pressure events, and other releases.

3 One must wonder is the Department of Energy delaying placing additional tanks on the
4 legal Watchlist until this comment period is closed? Why aren't we showing the risks from
5 hydrogen events and from exothermic reactions, as the Department's own studies have shown
6 them to be? As Todd Martin said earlier this evening, all that we know about some of these
7 events is that they have a far greater probability than 1 the million. We cannot put a definitive
8 figure on them. I would agree with that. We can't put a definitive figure on them. But we do
9 know, for instance for the exothermic reaction, we know that the Department of Energy has
10 had 3 explosions, at Hanford and Savannah River, involving this same material, same
11 exothermic reaction. Yet this EIS is based on a Westinghouse study that assumes the
12 possibility of one event is greater than one in a million. We have had three events, therefore,
13 in the last 50 years and that does not equal a rate of occurrence of one in a million. Thank
14 you.

15 I also just want to encourage people to fill out the long questionnaire and comment
16 form. And please leave them in the yellow envelopes by the door, or on the back table there.

17 Is there anyone else who wishes to offer comment to the record this evening?

18 Let the record show that comments of the Hanford Education Action League on the
19 Draft Environmental Impact Statement for the Tank Waste Remediation System, submitted by
20 Todd Martin, the HEAL staff researcher were received in writing this evening.

21 If you would like to send written comments.

22 Okay, I'm going to continue, I think we're going to get the slides here.

1 If you would like to send written comments to DOE or Ecology, they're due in by May
2 28, 1996. And they can be addressed either to Carolyn or Geoff. Comments may also be sent
3 via fax, or on the Internet address that you were given earlier this evening. Also received as
4 printed material tonight, copies of slides How the TWRS EIS Draft Skews Cost Versus Risks
5 and Benefits. Cost Order of Alternatives if Eliminate the Hypothetical Repository Fee and the
6 Conclusions. Those are from Gerald Pollett's comments. Gerald Pollet's comments, excuse
7 me.

8
9 If there are no further comments to the record, the comments received tonight, both in writing
10 and in through the tape transcript will be included in the responsiveness summary, with
11 comments from the public hearing held in Pasco, on May 2nd, 1996. And all written
12 comments received or post marked by May 28, 1996. Those records will become part of the
13 official record for this project.

14 On behalf of the U.S. Department of Energy, and the Washington State Department of
15 Ecology, I'd like to thank you all for coming tonight, and I appreciate your cooperation and
16 your courtesy. This hearing is adjourned at 9:26 p.m.

17 Your welcome to stay for any informal discussions that you'd like to have.